

حمل الآن

مجاناً وحصرياً

امتحانات رقم (1)

الترم الاول



1- A) Complete the following sentences:

- 1 Scientist assumed that the origin of the solar system in the modern theory is
- 2 Crossing over phenomenon occurs at the end of of the division.
- 3 The measuring unit of velocity is and equals displacement over

B) What happens ...?

- 1 When a light ray passes through the optical center of a convex lens.
•
- 2 Spores of bread mold fall on a wet piece of bread.
•
- 3 To the distance covered by a moving object when its speed is doubled while the time remains constant.
•

C) If the number of chromosomes in a human pancreatic cell is 23 pairs of chromosomes. What is the number of chromosomes in the following cells?

- 1 A fertilized ovum:
- 2 A sperm:

2- A) Write the scientific term for each of the following:

- 1 The continuous separation between the galaxies in the space as a result of their regular movement. (.....)
- 2 The combination of a male gamete and a female gamete to form a zygote. (.....)
- 3 The result of multiplying half the speed of a body by double of time. (.....)

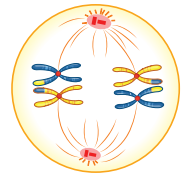
B) When do the following cases occur?

- 1 Formation of an image smaller than the object by a concave mirror.
•
- 2 The distance covered by a body equals the amount of displacement happened.
•

- 3 The angle of incidence of a light ray falling on the reflecting surface of a concave mirror equals zero.

.....

C) Look at the opposite figure, then answer:



- 1 What is the name of this phase?

.....

- 2 What happens in the next phase?

.....

.....

3- A) Cross out the odd word, then mention the relation between the rest:

- 1 Upright – Same size as the object – Inverted – Real.

.....

- 2 Mass – Force – Distance – Length.

.....

- 3 Reproductive cells – Liver cells – Gamete cells – Skin cells.

.....

B) Give a reason for:

- 1 The object which moves at a uniform speed, its acceleration equals zero.

.....

- 2 Most of people can't write in a correct way, while they are seeing their writings through a plane mirror.

.....

- 3 The Milky Way is given that name.

.....

C) Write what each number indicates:

- 1 3000 million years:

- 2 100000 million galaxies:

4- A) Choose the correct answer:

- 1 A concave mirror with a focal length of 20 cm, and the object is placed at a distance of 50 cm from the mirror, the image is formed at a distance

a) more than 40 cm

b) more than 20 cm, and less than 40 cm

c) equals 20 cm

d) equals 60 cm.

- 2 The ratio between the final speed and the initial speed of an object moving with a negative acceleration is
 a) more than one b) less than one c) equal to one d) equal to zero.
- 3 The number of chromosomes in a gamete the number of chromosomes in the mother cell.
 a) equals b) is quarter c) is double d) is half

B) First: Compare between each of the following:

- 1 Uniform speed and nonuniform speed (in terms of definition).

Uniform speed	Nonuniform speed
.....	
.....	
.....	

- 2 Reproduction by binary fission and reproduction by spores (In terms of giving an example for each).

Reproduction by binary fission	Reproduction by spores
.....	

Second: A car moves at a uniform speed of 20 m/sec. When the driver uses the brakes, the car stops after 2 min:

- Calculate the acceleration at which the car moves.

•

C) Mention the importance of each of the following:

- 1 Contact lenses:
- 2 Graphs and mathematical relationships:

1- A) Choose the correct answer:

- 1** A virtual, upright, and minimized image is formed by
a) a plane mirror b) a concave mirror
c) a convex mirror d) a convex lens
- 2** If an object moves 50 m to the east in a straight line, its displacement equals
a) 50 m to the west b) 50 m to the east
c) 100 m to the west d) 100 m to the east
- 3** The Sun takes million years to complete one rotation around the center of the galaxy.
a) 202 b) 220 c) 230 d) 320

B) What is meant by ...?

- 1 The focus of the mirror
 -
 -
- 2 Vegetative reproduction
 -
- 3 Relative speed
 -

C) Write the number that indicates each of the following:

- 1 The radius of curvature of a concave mirror of a focal length 10 cm:
- 2 The number of stars in our solar system:

2- A) Write the scientific term for each of the following:

- 1 The acceleration at which an object moves when its speed increases by equal values through equal periods of time. (.....)
- 2 A phase in which the spindle fibers begin to shrink, so all homologous chromosomes move away from each other. (.....)
- 3 A theory that assumed that the solar system is originally a glowing gaseous sphere revolving around itself. (.....)

B) What happens ...?

- 1 If the crossing over phenomenon doesn't occur at the end of prophase I.

.....

.....

- 2 When an object is placed in front of a convex mirror.

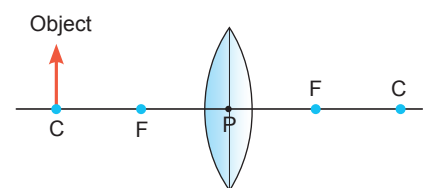
.....

- 3 When the nebula lost its heat in Laplace's opinion.

.....

C) An object whose length is 4 cm is placed in front of a convex lens its focal length is 3 cm.

- 1 Determine the location of the formed image by drawing only two light rays.



- 2 Determine the characteristics of the formed image.

.....

3- A) Correct the underlined words:

- 1 Sudden violent chemical reactions occur within the star which led to its explosion.

(.....)

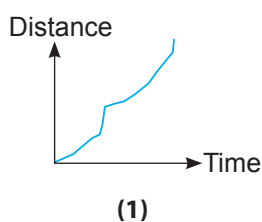
- 2 The convex mirror is used in solar oven.

(.....)

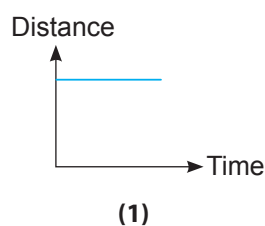
- 3 The compass is used directly to identify the speed of cars and planes.

(.....)

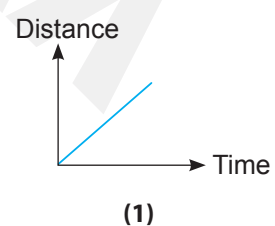
B) Describe the motion of the body in each of the following graphs:



.....



.....



.....

C) Compare between each of the following:

- 1 Short-sightedness and long-sightedness concerning the position of the formed image.

Short-sightedness	Long-sightedness
.....	

- 2 Nebular theory assumption and crossing star theory assumption concerning the name of the scientist.

Nebular theory assumption	Crossing star theory assumption
.....	

4- A) Complete the following sentences:

- 1 The image is always inverted, while image is always upright.
- 2 Density is considered one of physical quantities, while force is considered one of physical quantities.
- 3 Each chromosome chemically consists of and

B) First: Give a reason for:

- 1 The uniform speed of a car cannot be obtained practically.
•
- 2 The lens has two foci.
•

Second: A runner covered a distance of 100 meters in 10 seconds, then returned to the starting point on foot in 80 seconds, calculate the runner's average speed on both round trips.

•

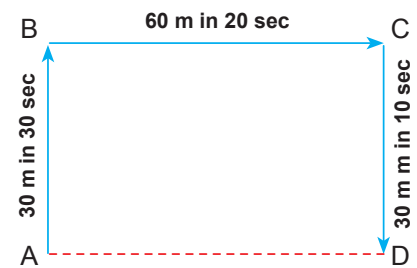
C) Mention one example for:

- 1 A gas from which the universe originated:
- 2 A type of asexual reproduction:
.....

1- A) Write the scientific term for each of the following:

- 1 Fibers extend between the two poles, and are formed in prophase. (.....)
- 2 Glowing of a star for a short time to become one of the most shining stars in the sky, then its glowing disappears gradually to return as it was. (.....)
- 3 The distance moved through a unit time. (.....)

B) In the opposite figure, an object starts moving from point (A) and covers 30 m northward within 30 seconds, then 60 m eastward within 20 seconds, and then 30 m southward within 10 seconds.



- 1 The value of the total distance.
 -
- 2 Displacement.
 -
- 3 The average velocity, then mention its direction.
 -
 -

C) Mention the importance of each of the following:

- 1 Convex mirror:
- 2 The Sun's gravity:

2- A) Match from column (B) what suits in column (A):

(A)	(B)
1. Average speed	() A glowing gaseous sphere revolving around itself.
2. Big Bang	() Convex mirror
3. Nebula	() The result of dividing the total distance covered by the total time.
4. It is used in shopping centers.	() 15000 million years.
	() Concave mirror

B) What is meant by ...?

1 The center of curvature of the lens face.

•

2 Displacement.

•

3 Tetrad.

•

C) Answer the following questions:

1 What are the conditions for reproduction by regeneration in a starfish?

•

2 Draw a diagram to illustrate the image formed when an object is placed at a distance 8 cm in front of a convex mirror that has a focal length of 3 cm.

•

3- A) Complete the following sentences:

1 The person with normal vision sees the near objects clearly at a distance not less than

2 The measuring unit of acceleration is, while the measuring unit of speed is

3 The Sun was born after from the big bang, and the earliest life forms began to appear after

B) Give a reason for:

1 The distances in the space are measured in light year.

•

2 Interphase comes before cell division.

•

•

- 3 The perpendicular incident light ray on a plane mirror reflects back on itself.

.....

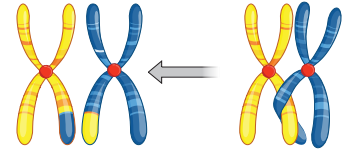
C) Look at the opposite figure, then answer:

- 1 What is the name of this phenomenon?

.....

- 2 What is the type of cell division it belongs to and which phase?

.....



4- A) Put (✓) in front of the correct sentences and (X) in front of the wrong sentences:

- 1 Mitotic division is responsible for the formation of gametes. ()
- 2 The vegetative reproduction occurs in plants by seeds. ()
- 3 The dentist uses concave mirror during clinical examination. ()

B) What happens ...?

- 1 When putting a yeast fungus in a warm sugary solution.

.....

- 2 In case of the explosion of a star near the Sun according to Fred Hoyle.

.....

- 3 If the diameter of the eyeball increases than the normal state.

.....

C) Write the number that indicates each of the following:

- 1 The displacement of an object that moves 20 m east and then returns 10 m west.

.....

- 2 The acceleration of a car that moves at a uniform speed of 25 m/s for 10 minutes.

.....

1- A) Correct the underlined words:

- 1 If a light ray falls passing through the optical center of a convex lens, it passes through the focus. (.....)
- 2 The universe emerged from the particles of hydrogen and oxygen. (.....)
- 3 The average speed is the displacement covered in one second. (.....)

B) First: What is meant by...?

- 1 The car moves at a negative acceleration equals $-2 \text{ m/sec}^2 \text{ s}$.
.....
- 2 The distance between the principal focus and the optical center of a convex lens is 10 cm.
.....

Second: A race car started its movement from rest until it reached a speed of 90 km/h in 20 seconds.

- Calculate the acceleration on which the car moves, and mention its type.

-
-

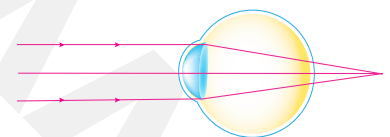
C) The opposite figure represents a vision defect.

- 1 What is the vision defect with this person?

.....

- 2 How can this defect be corrected?

.....



2- A) Choose the correct answer:

- 1 is the result of multiplying the speed of a moving object by time.
a) Speed b) Acceleration c) Distance d) Time
- 2 The solar system is located in one of the arms of the Milky Way.
a) cylindrical b) oval c) circular d) spiral
- 3 The parental individual disappears when the reproduction occurs in the
a) bacteria b) yeast fungus c) bread mold fungus d) mushroom fungus

B) Give a reason for:

- 1 Meiotic division is called reduction division.

.....

- 2 (Speed - Time) graph of an object that moves at a regular speed is a straight line parallel to the time axis.

.....

- 3 Concave lens is called diverging lens.

.....

C) The opposite figures represent the division of two cells by two different ways:

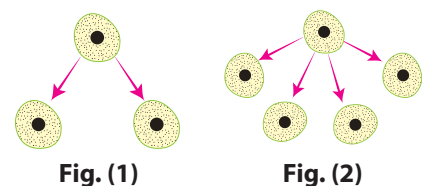
- 1 Mention the type of division in each figure.

.....

- 2 What is the importance of division in figure (1)?

.....

.....



3- A) Write the scientific term for each of the following:

- 1 The space which contains all the galaxies, stars, planets, moons, living organisms and everything. (.....)

- 2 The point of collection of the refracted light rays in the convex lens or their extensions in the concave lens. (.....)

- 3 The speed by which an object moves to cover equal distances at equal periods of time. (.....)

B) First: When do the following cases occur?

- 1 No image is formed.

.....

- 2 The relative speed of a moving object relative to an observer is less than its real speed.

.....

.....

Second: Compare between:

P.O.C	Sexual reproduction	Asexual reproduction
Number of parental individuals		
Kind of cell division		
The genetic traits of the resulted offspring		

C) Mention the importance of each of the following:

① Anther in flowering plants

•

② Hubble telescope

•

•

4- A) Cross out the odd word, then mention the relation between the rest:

① Long-sightedness – Short-sightedness – Cancer disease – Cataract.

•

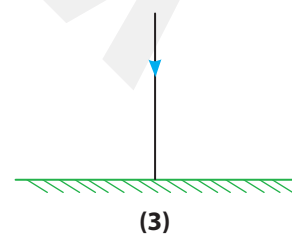
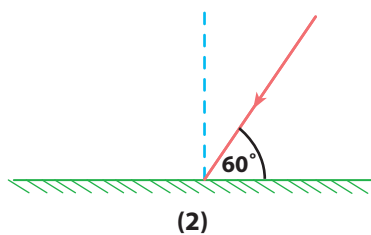
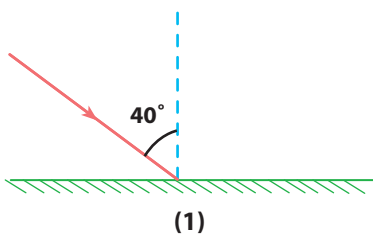
② Yeast fungus – Paramecium – Sponge – Hydra.

•

③ Displacement – Acceleration – Mass – Distance.

•

B) Complete the following figures by drawing:



C) When do the following values equal zero?

① The relative speed of a moving object.

•

② Displacement of a moving object.

•

1- A) Complete the following sentences:

- 1 If the focal length of a spherical mirror is 3 cm, so its radius of curvature equals
- 2 The object moves with negative acceleration, when its speed is less than its speed.
- 3 The chromosome consists of that are connected at

B) What are the results of each of the following ...?

- 1 Increasing the radius of curvature of the face of the lens twice (concerning the focal length).
.....
- 2 The gravity between the Sun and the planets is vanished.
.....
- 3 The nucleus of the cell is removed.
.....

C) Compare between each of the following:

- 1 Real focus and virtual focus.

Real focus	Virtual focus
.....	
.....	

- 2 Liver cell in the human and a leaf cell in the plant according to the formation of spindle fibers.

In liver cell in the human	In leaf cell in the plant
.....	
.....	

2- A) Choose the correct answer:

- 1 Within minutes after the big bang the percentage of helium gas was %.
a) 25 b) 50 c) 75 d) 100
- 2 A huge optical piece is used to burn the sails of huge ships using the sun's rays.
- Which one of the following optical pieces is suitable for doing this?
a) Convex mirror b) Concave mirror b) Plane mirror d) Concave lens

- 3 Reproduction by budding occurs in multicellular organisms such as in
a) mushroom b) bread mold c) yeast d) sponge

B) What is meant by ...?

- 1 Nebula
•
- 2 Vector physical quantity
•
- 3 Pole of a mirror
•

C) What is the relation between the genetic structure for each offspring and parents in the following cases?

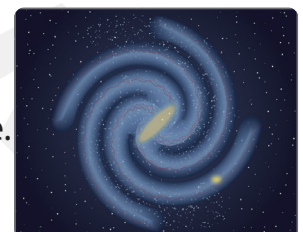
- 1 Binary fission in paramecium.
•
- 2 The plant results from the germination of seeds.
•

3- A) Put (✓) in front of the correct sentences and (X) in front of the wrong sentences:

- 1 When an object starts its movement from rest, its initial speed equals zero. ()
- 2 The image formed by a plane mirror is always real. ()
- 3 The solar system contains many galaxies. ()

B) Look at the opposite figure, then answer:

- 1 The opposite figure represents the
- 2 The are gathered in the center of the opposite figure.
- 3 The opposite figure is formed after from the
..... .



C) Mention the importance/use for each of the following:

- 1 Concave mirror
•
- 2 Proteins that are loaded on gold molecules
•

4- A) Write the scientific term for each of the following:

- 1 The phase in which the duplicating of the genetic material occurs. (.....)
- 2 A disease that infects the eye lens, so it becomes dark. (.....)
- 3 An object whose position does not change over time. (.....)

B) First: A car with a relative speed of 80 km/h. Calculate its actual speed if an observer is moving in the same direction of the car at a speed of 30 km/h:

•

Second: If the number of chromosomes in a stem cell and an ovary cell of a plant cell is 8 pairs for each.

- 1 What is the type of cell division that occurs in each cell?
•
- 2 What is the number of chromosomes produced from the division of each cell?
•

C) Answer the following questions:

- 1 The perception of Laplace has been affected by two observations. What are they?
•
•
- 2 One of the students approaches a lens to his eyes and looks through it, he observes that the image of the object seems erect. Then, he moves the lens away until it becomes far to a certain distance from his eyes, and he observes that the image becomes inverted. The student concludes that the lens must be a convex lens. Is the conclusion of the student correct or incorrect? and why?
•
•

1- A) Complete the following sentences:

- 1 Scientist **Fred Hoyle** assumed that the origin of the solar system in the modern theory is **a star rather than the Sun**.
- 2 Crossing over phenomenon occurs at the end of **prophase I** of the **first meiotic** division.
- 3 The measuring unit of velocity is **m/sec** and equals displacement over **total time**.

B) What happens ...?

- 1 When a light ray passes through the optical center of a convex lens.
 - **It passes through the lens without refraction.**
- 2 Spores of bread mold fall on a wet piece of bread.
 - **They grow forming new fungi.**
- 3 To the distance covered by a moving object when its speed is doubled while the time remains constant.
 - **The distance increases to double.**

C) If the number of chromosomes in a human pancreatic cell is 23 pairs of chromosomes. What is the number of chromosomes in the following cells?

- 1 A fertilized ovum: **23 pairs of chromosomes**.
- 2 A sperm: **23 chromosomes**.

2- A) Write the scientific term for each of the following:

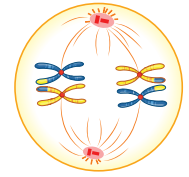
- 1 The continuous separation between the galaxies in the space as a result of their regular movement. (**Expansion of the universe**)
- 2 The combination of a male gamete and a female gamete to form a zygote. (**Fertilization**)
- 3 The result of multiplying half the speed of a body by double of time. (**Distance**)

B) When do the following cases occur?

- 1 Formation of an image smaller than the object by a concave mirror.
 - **When the object is placed at a distance more than double the focal length.**
- 2 The distance covered by a body equals the amount of displacement happened.
 - **When the object moves in a straight line in one direction.**

- 3 The angle of incidence of a light ray falling on the reflecting surface of a concave mirror equals zero.
- When the light ray passes through the center of curvature of the concave mirror.

C) Look at the opposite figure, then answer:



- 1 What is the name of this phase?
- Metaphase I.
- 2 What happens in the next phase?
- The spindle fibers begin to shrink, so every two homologous chromosomes move away from each other and migrate towards one of the cell's poles.

3- A) Cross out the odd word, then mention the relation between the rest:

- 1 Upright – Same size as the object – Inverted – Real.
- The odd word: Real – The rest are the properties of image formed by a plane mirror.
- 2 Mass – Force – Distance – Length.
- The odd word: Force – The rest are scalar physical quantities.
- 3 Reproductive cells – Liver cells – Gamete cells – Skin cells.
- The odd word: Gamete cells – The rest contain a diploid number of chromosomes (2N).

B) Give a reason for:

- 1 The object which moves at a uniform speed, its acceleration equals zero.
- Because its speed doesn't change by passing time ($\Delta V = \text{Zero}$).
- 2 Most of people can't write in a correct way, while they are seeing their writings through a plane mirror.
- Because the images formed by the plane mirror are laterally inverted (reversed).
- 3 The Milky Way is given that name.
- Because it appears in the sky at night as a splashing milk.

C) Write what each number indicates:

- 1 3000 million years: Galaxies began to form
- 2 100000 million galaxies: The number of galaxies in the universe

4- A) Choose the correct answer:

- 1 A concave mirror with a focal length of 20 cm, and the object is placed at a distance of 50 cm from the mirror, the image is formed at a distance
- a) more than 40 cm b) more than 20 cm, and less than 40 cm
- c) equals 20 cm d) equals 60 cm.

- ② The ratio between the final speed and the initial speed of an object moving with a negative acceleration is
 a) more than one b) less than one c) equal to one d) equal to zero.
- ③ The number of chromosomes in a gamete the number of chromosomes in the mother cell.
 a) equals b) is quarter c) is double d) is half

B) First: Compare between each of the following:

- ① Uniform speed and nonuniform speed (in terms of definition).

Uniform speed	Nonuniform speed
It is the speed at which an object moves when it covers equal distances at equal periods of time.	It is the speed at which an object moves when it covers unequal distances at equal periods of time / or / equal distances at unequal periods of time.

- ② Reproduction by binary fission and reproduction by spores (In terms of giving an example for each).

Reproduction by binary fission	Reproduction by spores
Amoeba – Euglena	Bread mold fungus – Mushroom fungus

Second: A car moves at a uniform speed of 20 m/sec. When the driver uses the brakes, the car stops after 2 min:

- Calculate the acceleration at which the car moves.

•
$$\text{Acceleration} = \frac{V_2 - V_1}{\Delta t} = \frac{0 - 20}{120} = 0.16 \text{ m/sec}^2.$$

C) Mention the importance of each of the following:

- ① Contact lenses: They are used instead of the medical glasses to treat the vision defects.
- ② Graphs and mathematical relationships: Predict the relation between certain physical quantities. / Understand practical results. / Describe the physical phenomena in an easier way.

1- A) Choose the correct answer:

- 1** A virtual, upright, and minimized image is formed by
a) a plane mirror b) a concave mirror
c) a convex mirror d) a convex lens
- 2** If an object moves 50 m to the east in a straight line, its displacement equals
a) 50 m to the west **b) 50 m to the east**
c) 100 m to the west d) 100 m to the east
- 3** The Sun takes million years to complete one rotation around the center of the galaxy.
a) 202 **b) 220** c) 230 d) 320

B) What is meant by ...?

- 1 The focus of the mirror
 - It is the point of collection of the refracted light rays (in the convex lens) or their extensions (in the concave lens).
- 2 Vegetative reproduction
 - It is a type of asexual reproduction that takes place in plant's vegetative organs without the need of seeds.
- 3 Relative speed
 - It is the speed of a moving object relative to a static or a moving observer.

C) Write the number that indicates each of the following:

- 1 The radius of curvature of a concave mirror of a focal length 10 cm: **20 cm.**
- 2 The number of stars in our solar system: **One star.**

2- A) Write the scientific term for each of the following:

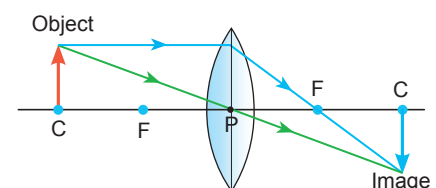
- 1 The acceleration at which an object moves when its speed increases by equal values through equal periods of time. (Positive uniform acceleration)
- 2 A phase in which the spindle fibers begin to shrink, so all homologous chromosomes move away from each other. (Anaphase I)
- 3 A theory that assumed that the solar system is originally a glowing gaseous sphere revolving around itself. (The Nebular theory)

B) What happens ...?

- 1 If the crossing over phenomenon doesn't occur at the end of prophase I.
 - The variation of genetic traits among the members of the same species doesn't occur.
- 2 When an object is placed in front of a convex mirror.
 - A virtual, erect, and diminished image is formed.
- 3 When the nebula lost its heat in Laplace's opinion.
 - Its size contracted and its revolving speed around itself increased.

C) An object whose length is 4 cm is placed in front of a convex lens its focal length is 3 cm.

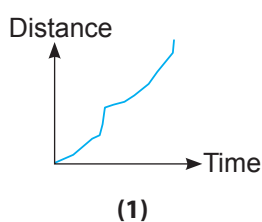
- 1 Determine the location of the formed image by drawing only two light rays.
- 2 Determine the characteristics of the formed image.
 - The image is real, inverted, and equal to the object.



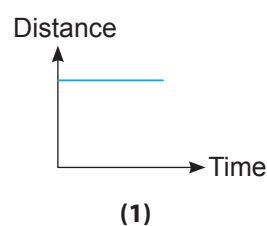
3- A) Correct the underlined words:

- 1 Sudden violent chemical reactions occur within the star which led to its explosion. (nuclear)
- 2 The convex mirror is used in solar oven. (concave)
- 3 The compass is used directly to identify the speed of cars and planes. (speedometer)

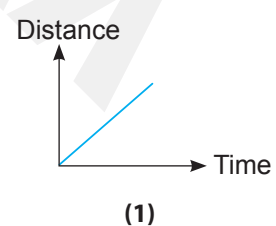
B) Describe the motion of the body in each of the following graphs:



Irregular speed



A static object



Regular speed

C) Compare between each of the following:

- 1 Short-sightedness and long-sightedness concerning the position of the formed image.

Short-sightedness	Long-sightedness
The image is formed in front of the retina.	The image is formed behind the retina.

- 2 Nebular theory assumption and crossing star theory assumption concerning the name of the scientist.

Nebular theory assumption	Crossing star theory assumption
The founder is Laplace.	The founders are Chamberlain and Moulton.

4- A) Complete the following sentences:

- 1 The **real** image is always inverted, while the **virtual** image is always upright.
- 2 Density is considered one of **scalar** physical quantities, while force is considered one of **vector** physical quantities.
- 3 Each chromosome chemically consists of **DNA** and **proteins**.

B) First: Give a reason for:

- 1 The uniform speed of a car cannot be obtained practically.
 - Because the car speed changes according to the conditions of the road.
- 2 The lens has two foci.
 - Because it has two spherical surfaces.

Second: A runner covered a distance of 100 meters in 10 seconds, then returned to the starting point on foot in 80 seconds, calculate the runner's average speed on both round trips.

• Average speed = $\frac{\text{Total distance}}{\text{Total time}} = \frac{100+100}{10+80} = 2.2 \text{ m/sec.}$

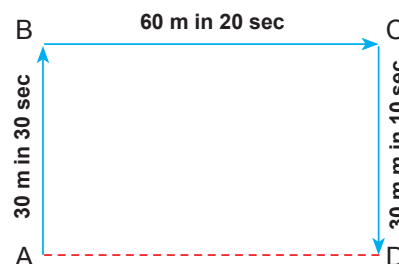
C) Mention one example for:

- 1 A gas from which the universe originated: **Hydrogen or helium**.
- 2 A type of asexual reproduction: **Reproduction by budding / Reproduction by spore propagation / Reproduction by regeneration / Vegetative reproduction / Reproduction by binary fission.**

1- A) Write the scientific term for each of the following:

- 1 Fibers extend between the two poles, and are formed in prophase. (**Spindle fibers**)
- 2 Glowing of a star for a short time to become one of the most shining stars in the sky, then its glowing disappears gradually to return as it was.
(**Star explosion phenomenon**)
- 3 The distance moved through a unit time. (**Speed**)

B) In the opposite figure, an object starts moving from point (A) and covers 30 m northward within 30 seconds, then 60 m eastward within 20 seconds, and then 30 m southward within 10 seconds.



- 1 The value of the total distance.
• **Total distance = 30 + 60 + 30 m = 120 m**
- 2 Displacement.
• **Displacement = 60 m eastward.**
- 3 The average velocity, then mention its direction.
• **Velocity = $\frac{\text{Displacement}}{\text{Time}} = \frac{60}{60} = 1 \text{ m/sec eastward}$**

C) Mention the importance of each of the following:

- 1 Convex mirror: **It is used for many purposes: In cars it is found on the right and the left side of the driver, at shopping centers, and on the corners of narrow roads.**
- 2 The Sun's gravity: **It keeps the planets in their orbits around the Sun.**

2- A) Match from column (B) what suits in column (A):

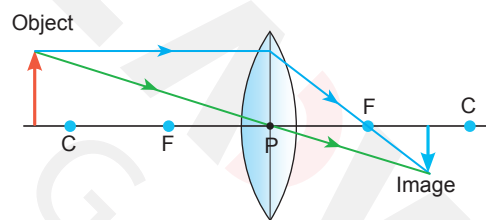
(A)	(B)
1. Average speed	(3) A glowing gaseous sphere revolving around itself.
2. Big Bang	(4) Convex mirror
3. Nebula	(1) The result of dividing the total distance covered by the total time.
4. It is used in shopping centers.	(2) 15000 million years.
	() Concave mirror

B) What is meant by ...?

- 1 The center of curvature of the lens face.
 - It is the center of the sphere, where this face is a part of.
- 2 Displacement.
 - It is the distance covered at a certain direction from the primary position of movement towards its final position.
- 3 Tetrad.
 - It is the arrangement of homologous pairs of chromosomes where each pair consists of 4 chromatids.

C) Answer the following questions:

- 1 What are the conditions for reproduction by regeneration in a starfish?
 - The missing part of the star fish must contain the central disc of the animal.
- 2 Draw a diagram to illustrate the image formed when an object is placed at a distance 8 cm in front of a convex mirror that has a focal length of 3 cm.



3- A) Complete the following sentences:

- 1 The person with normal vision sees the near objects clearly at a distance not less than 25 cm.
- 2 The measuring unit of acceleration is m/sec^2 , while the measuring unit of speed is m/sec .
- 3 The Sun was born after 10000 million years from the big bang, and the earliest life forms began to appear after 12000 million years.

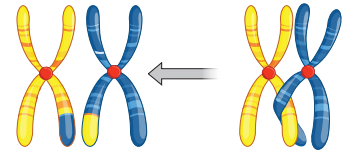
B) Give a reason for:

- 1 The distances in the space are measured in light year.
 - Because the distances between stars are very large.
- 2 Interphase comes before cell division.
 - To prepare the cell division through some biological processes, where the genetic materials duplicates.

- 3 The perpendicular incident light ray on a plane mirror reflects back on itself.
• Because the angle of incidence = the angle of reflection = zero.

C) Look at the opposite figure, then answer:

- 1 What is the name of this phenomenon?
• Crossing over phenomenon.
- 2 What is the type of cell division it belongs to and which phase?
• It belongs to the first meiotic division, and occurs at the end of prophase I.



4- A) Put (✓) in front of the correct sentences and (X) in front of the wrong sentences:

- 1 Mitotic division is responsible for the formation of gametes. (X)
- 2 The vegetative reproduction occurs in plants by seeds. (X)
- 3 The dentist uses concave mirror during clinical examination. (✓)

B) What happens ...?

- 1 When putting a yeast fungus in a warm sugary solution.
• The yeast fungus reproduces asexually by budding forming a new fungus, separated from the parent cell or remains connected to the parent cell forming a colony.
- 2 In case of the explosion of a star near the Sun according to Fred Hoyle.
• The bombing of the star's nucleus away from the gravity of the Sun and a gaseous cloud from this star remained around the Sun.
- 3 If the diameter of the eyeball increases than the normal state.
• This causes the retina to be far from the eye lens and this causes short-sightedness.

C) Write the number that indicates each of the following:

- 1 The displacement of an object that moves 20 m east and then returns 10 m west.
• 10 m eastward
- 2 The acceleration of a car that moves at a uniform speed of 25 m/s for 10 minutes.
• Zero

1- A) Correct the underlined words:

- 1 If a light ray falls passing through the optical center of a convex lens, it passes through the focus. (does not refract and passes in a straight line)
- 2 The universe emerged from the particles of hydrogen and oxygen. (helium)
- 3 The average speed is the displacement covered in one second. (average velocity)

B) First: What is meant by...?

- 1 The car moves at a negative acceleration equals $-2 \text{ m/sec}^2 \text{ s}$.
 - This means that the car speed decreases by 2 m/sec each one second.
- 2 The distance between the principal focus and the optical center of a convex lens is 10 cm .
 - This means that the focal length of this lens is 10 cm .

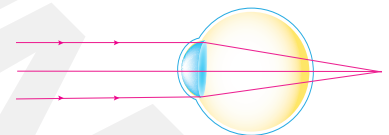
Second: A race car started its movement from rest until it reached a speed of 90 km/h in 20 seconds .

- Calculate the acceleration on which the car moves, and mention its type.

- $V_1 = \text{Zero}$ $V_2 = 25 \text{ m/sec}$ Time = 20 sec
- Acceleration = $\frac{25-0}{20} = 1.25 \text{ m/sec}^2$, With a positive uniform acceleration

C) The opposite figure represents a vision defect.

- 1 What is the vision defect with this person?
 - Long-eye sightedness.
- 2 How can this defect be corrected?
 - It is corrected by using a convex lens which collects the rays before falling on the eye, so, the image of the object is formed exactly on the retina.



2- A) Choose the correct answer:

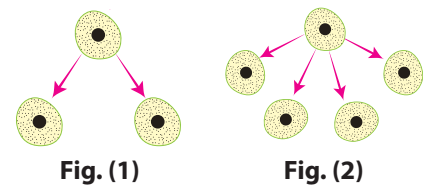
- 1 is the result of multiplying the speed of a moving object by time.
 - a) Speed b) Acceleration c) Distance d) Time
- 2 The solar system is located in one of the arms of the Milky Way.
 - a) cylindrical b) oval c) circular d) spiral
- 3 The parental individual disappears when the reproduction occurs in the
 - a) bacteria b) yeast fungus c) bread mold fungus d) mushroom fungus

B) Give a reason for:

- 1 Meiotic division is called reduction division.
 - Because the produced cells contain half the number of chromosomes of the original cell.
- 2 (Speed - Time) graph of an object that moves at a regular speed is a straight line parallel to the time axis.
 - Because the object speed remains constant as time passes.
- 3 Concave lens is called diverging lens.
 - As it separates light rays falling on it.

C) The opposite figures represent the division of two cells by two different ways:

- 1 Mention the type of division in each figure.
 - Fig. (1) is mitotic division, while fig. (2) is meiotic division.
- 2 What is the importance of division in figure (1)?
 - It is important for growth of living organisms, compensation of damaged cells, and completing the asexual reproduction process.



3- A) Write the scientific term for each of the following:

- 1 The space which contains all the galaxies, stars, planets, moons, living organisms and everything. (Universe)
- 2 The point of collection of the refracted light rays in the convex lens or their extensions in the concave lens. (Focus of the lens or Principal focus)
- 3 The speed by which an object moves to cover equal distances at equal periods of time. (Regular speed)

B) First: When do the following cases occur?

- 1 No image is formed.
 - When the object is put at the focus of a convex lens or a concave mirror.
- 2 The relative speed of a moving object relative to an observer is less than its real speed.
 - When the observer moves in the same direction of the movement of the object with a different speed.

Second: Compare between:

P.O.C	Sexual reproduction	Asexual reproduction
Number of parental individuals	By two individuals a male and a female.	By one single parent
Kind of cell division	Meiotic cell division	Mitotic cell division
The genetic traits of the resulted offspring	The new individual carries combined traits of both parents.	The new individual exactly looks like its parent.

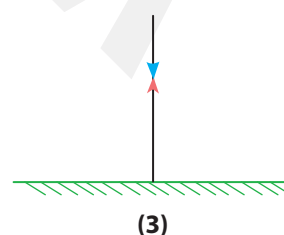
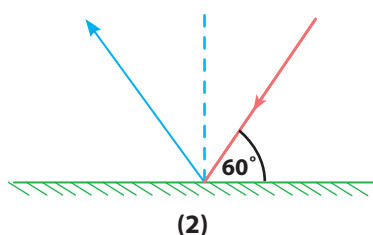
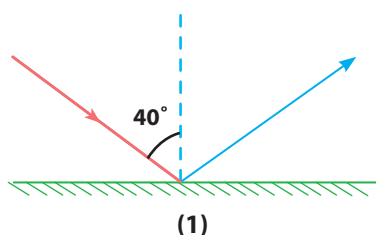
C) Mention the importance of each of the following:

- 1 Anther in flowering plants
 - Producing pollen grains.
- 2 Hubble telescope
 - It collects photos of the universe that give us details about its state since millions of years, these photos give astronomers an opportunity to study the evolution of the universe after the Big Bang.

4- A) Cross out the odd word, then mention the relation between the rest:

- 1 Long-sightedness – Short-sightedness – Cancer disease – Cataract.
 - The odd word: Cancer disease – The rest are diseases and defects that infect the eye.
- 2 Yeast fungus – Paramecium – Sponge – Hydra.
 - The odd word: Paramecium – The rest are organisms that reproduce by budding.
- 3 Displacement – Acceleration – Mass – Distance.
 - The odd word: Distance – The rest are vector physical quantities.

B) Complete the following figures by drawing:



C) When do the following values equal zero?

- 1 The relative speed of a moving object.
 - When the object moves in the same direction at the same speed of another moving object.
- 2 Displacement of a moving object.
 - When the final position of the movement of this body is the same primary position.

1- A) Complete the following sentences:

- 1 If the focal length of a spherical mirror is 3 cm, so its radius of curvature equals **6 cm**.
- 2 The object moves with negative acceleration, when its **final** speed is less than its **initial** speed.
- 3 The chromosome consists of **two chromatids** that are connected at **centromere**.

B) What are the results of each of the following ...?

- 1 Increasing the radius of curvature of the face of the lens twice (concerning the focal length).
 - The focal length also increases twice.
- 2 The gravity between the Sun and the planets is vanished.
 - The planets will leave their orbits and float in a random fashion in space, and there will be no solar system.
- 3 The nucleus of the cell is removed.
 - The cell division doesn't occur.

C) Compare between each of the following:

- 1 Real focus and virtual focus.

Real focus	Virtual focus
It is the point of collection of the reflected light rays in front of the concave mirror.	It is the point of collection of the extensions of the reflected light rays behind the convex mirror.

- 2 Liver cell in the human and a leaf cell in the plant according to the formation of spindle fibers.

In liver cell in the human	In leaf cell in the plant
The spindle fibers are formed by the centrosomes.	The spindle fibers formed from condensing the cytoplasm at two poles of the cell.

2- A) Choose the correct answer:

- 1 Within minutes after the big bang the percentage of helium gas was %.
 - a) 25 b) 50 c) 75 d) 100
- 2 A huge optical piece is used to burn the sails of huge ships using the sun's rays.
 - Which one of the following optical pieces is suitable for doing this?
 - a) Convex mirror b) Concave mirror b) Plane mirror d) Concave lens

- 3 Reproduction by budding occurs in multicellular organisms such as in
a) mushroom b) bread mold c) yeast d) sponge

B) What is meant by ...?

- 1 Nebula
 - It is a glowing gaseous sphere rotating around itself, from which the solar system was originated.
- 2 Vector physical quantity
 - It is the physical quantity that has magnitude and direction.
- 3 Pole of a mirror
 - It is the point that lies in the middle of the reflecting surface of the mirror.

C) What is the relation between the genetic structure for each offspring and parents in the following cases?

- 1 Binary fission in paramecium.
 - The new offspring gets full copy of the parental individual genetic traits.
- 2 The plant results from the germination of seeds.
 - The resulting offspring has new genetic traits different from the parents' traits.

3- A) Put (✓) in front of the correct sentences and (X) in front of the wrong sentences:

- 1 When an object starts its movement from rest, its initial speed equals zero. (✓)
- 2 The image formed by a plane mirror is always real. (X)
- 3 The solar system contains many galaxies. (X)

B) Look at the opposite figure, then answer:

- 1 The opposite figure represents the Milky Way.
- 2 The old stars are gathered in the center of the opposite figure.
- 3 The opposite figure is formed after 5000 million years from the big bang.



C) Mention the importance/use for each of the following:

- 1 Concave mirror
 - It is used in front lights of cars, and in some types of telescopes.
- 2 Proteins that are loaded on gold molecules
 - Adhere to the cancer cells secretion to monitor it.

4- A) Write the scientific term for each of the following:

- 1 The phase in which the duplicating of the genetic material occurs. (Interphase)
- 2 A disease that infects the eye lens, so it becomes dark. (Eye cataract)
- 3 An object whose position does not change over time. (Static object)

B) First: A car with a relative speed of 80 km/h. Calculate its actual speed if an observer is moving in the same direction of the car at a speed of 30 km/h:

- Real speed = $80 + 30 = 110$ km/h.

Second: If the number of chromosomes in a stem cell and an ovary cell of a plant cell is 8 pairs for each.

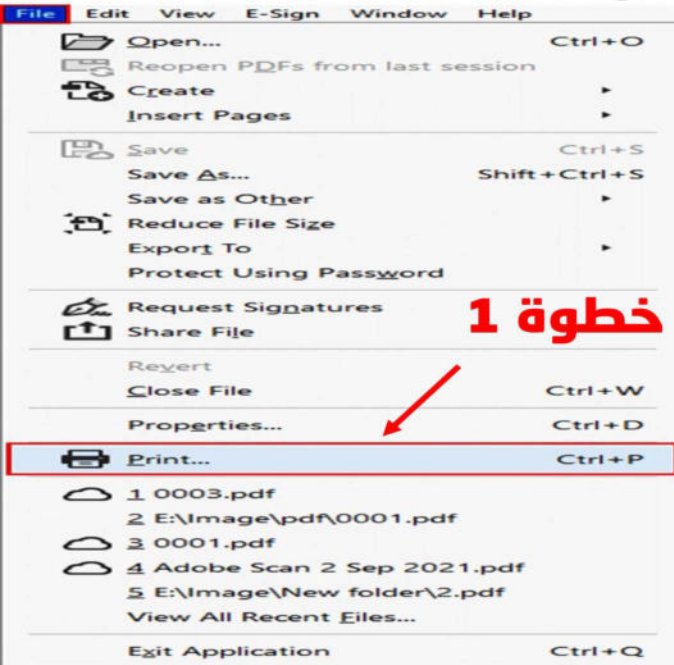
- 1 What is the type of cell division that occurs in each cell?
 - Mitotic cell division occurs in the stem cell, while meiotic cell division occurs in the ovary cell.
- 2 What is the number of chromosomes produced from the division of each cell?
 - Stem cell $\rightarrow$ 8 pairs of chromosomes Ovary cell $\rightarrow$ 8 chromosomes

C) Answer the following questions:

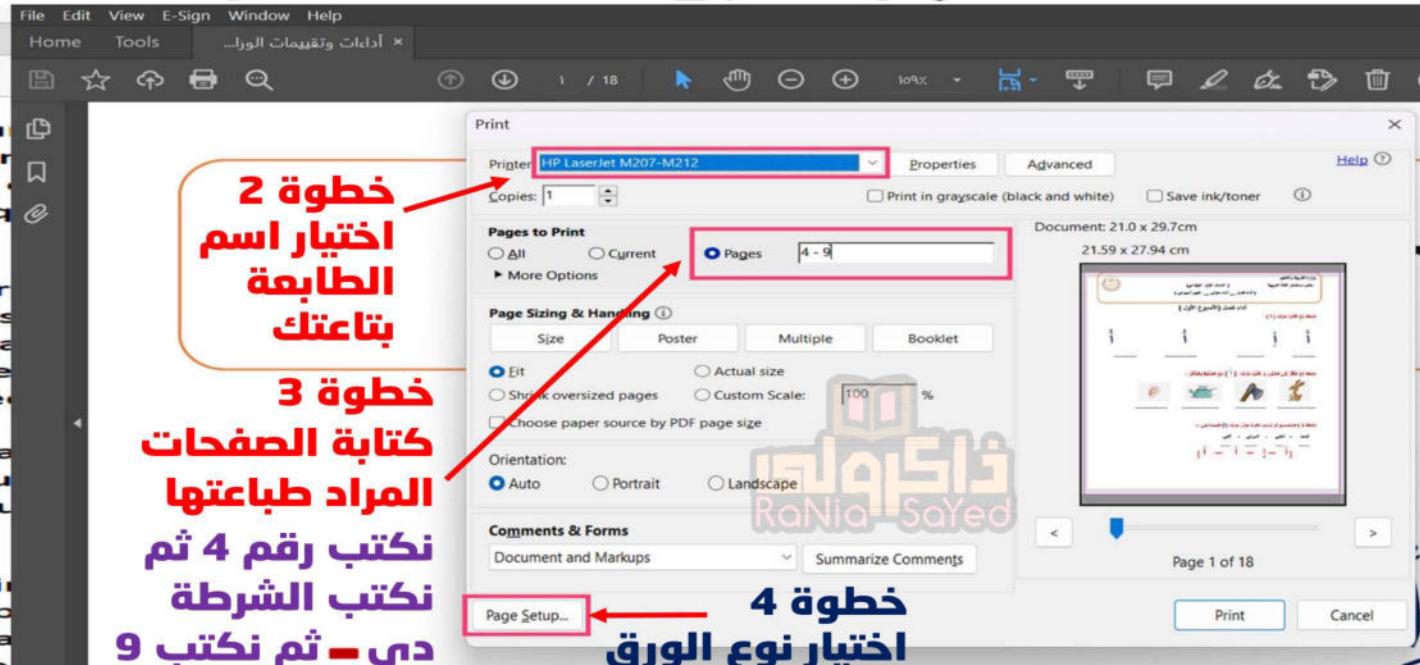
- 1 The perception of Laplace has been affected by two observations. What are they?
 - There is something that looks like clouds or nebula in the space.
 - The space contains many cloudy rings surrounding some planets such as the rings of Saturn planet.
- 2 One of the students approaches a lens to his eyes and looks through it, he observes that the image of the object seems erect. Then, he moves the lens away until it becomes far to a certain distance from his eyes, and he observes that the image becomes inverted. The student concludes that the lens must be a convex lens. Is the conclusion of the student correct or incorrect? and why?
 - Yes, the student's conclusion is correct.
Reason: Because the properties of the image formed by a convex lens change according to the position of the object, while the image formed by a concave lens is always upright image.

كيفية طباعة صفحات معينة من ملف معين

مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9



خطوة 1



خطوة 2
اختيار اسم
الطابعة
بتاعتك

خطوة 3
كتابة الصفحات
المراد طباعتها
نكتب رقم 4 ثم
نكتب الشرطة
دي - ثم نكتب 9

خطوة 4
اختيار نوع الورق



خطوة 5
اختيار A4



خطوة 6

حمل الآن

مجاناً وحصرياً

امتحانات رقم (2)

الترم الاول



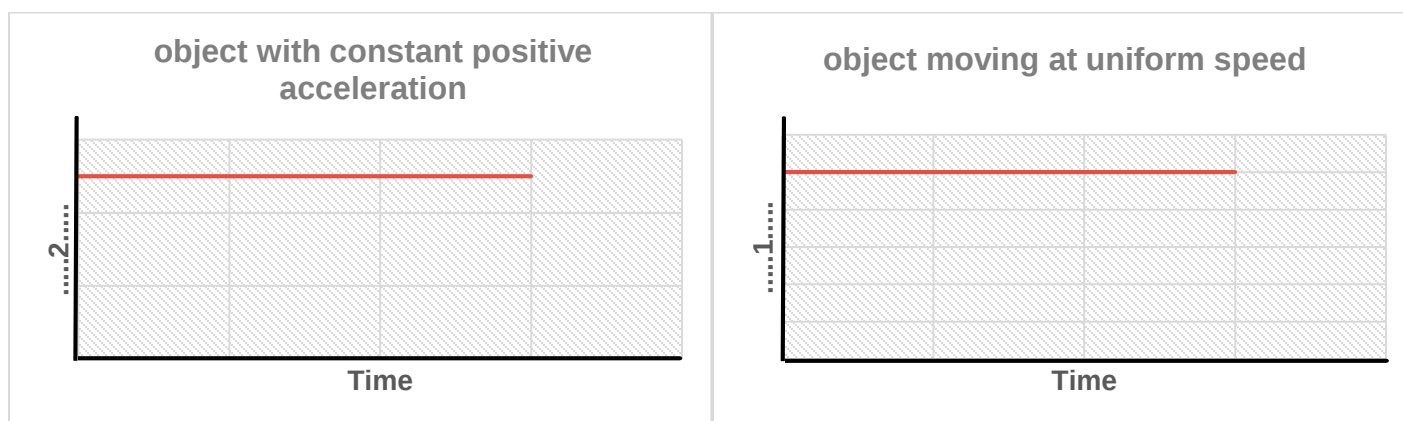


1st) Write what each of the following

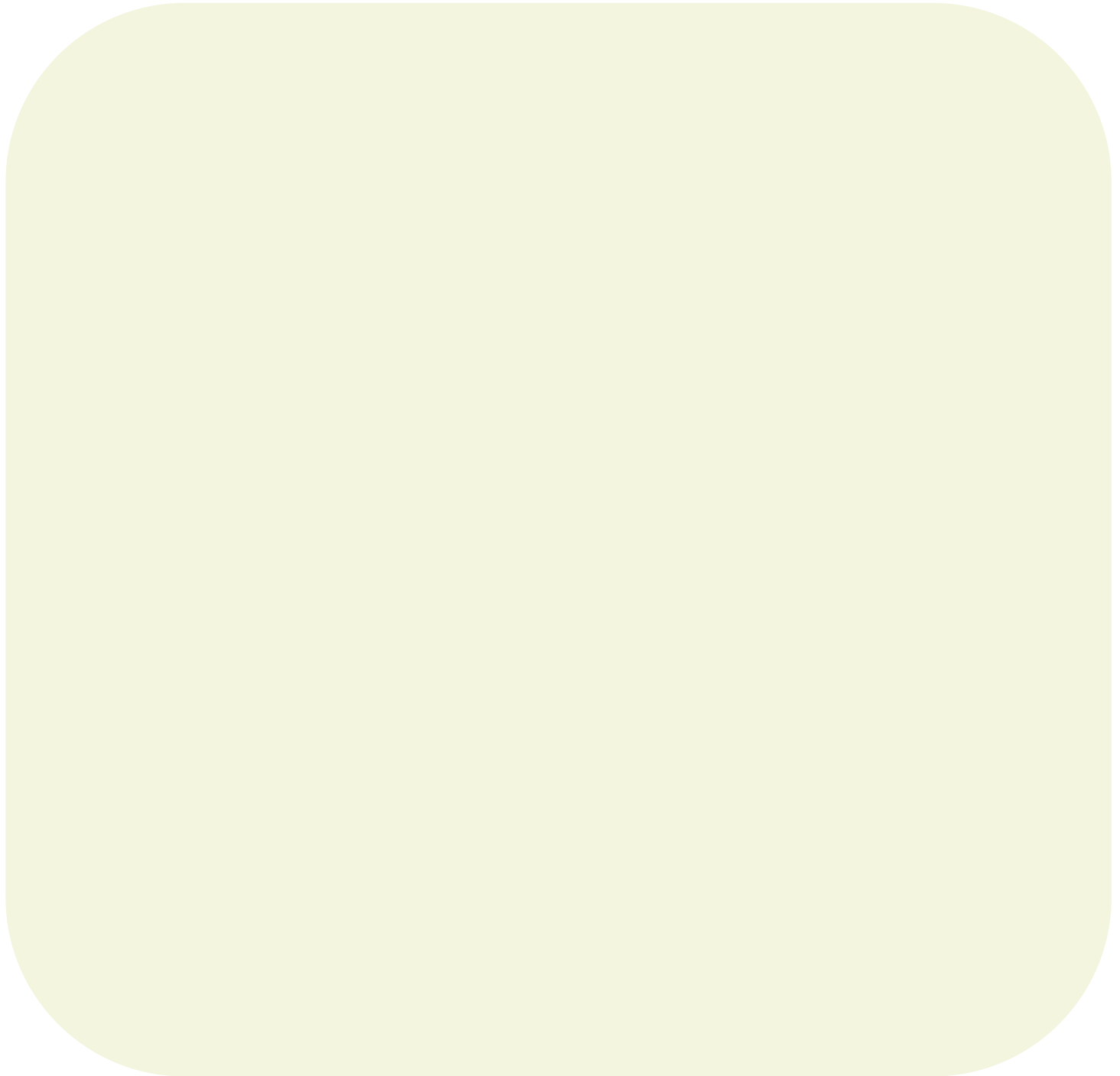
1. A tool used by physicists to predict the mathematical relationships between different physical quantities.
.....
2. A light piece that forms an enlarged virtual image on the same side as the object.
.....
3. The ratio between the number of cells produced by mitosis and the number of cells produced by meiosis.
.....

2nd) What happens in the following cases?

4. The airplane is moving against the direction of the wind
In terms of flight time and fuel consumption
.....
.....
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5. A light ray falls on a concave lens parallel to its principal axis
.....
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6. The zygote undergoes mitotic division
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.....
7. Replace the number on the vertical axis with a suitable physical quantity

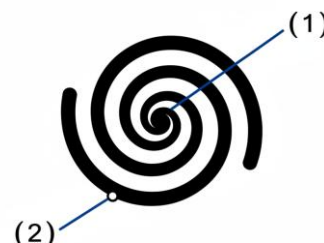


- 8. Two cells were divided, one in the plant stem and the other in the ovary, explain with a diagram the metaphase phase that each cell goes through.**



3rd) Complete the following

9. Distance and displacement are the same in and differ in
10. A mirror is used in parking , while a mirror is used by the dentist during examination.
11. In the opposite graph
- Number one refers to
.....
 - Number two refers to
.....



12. What does that mean



- (A) The relative speed of a car with respect to an observer is equal to the actual speed of the car

.....

.....

- (B) An object moving with zero acceleration

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13. An object moves in a straight line at a speed of **3 m/s** for a distance of **30 m**, then continues along the same line for a distance of **120 m** at a speed of **6 m/s**. Calculate the **average speed** of the object from the start of the motion to the end.

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- 14. Explain:** Uniform motion is represented by a straight inclined line passing through the origin in a (distance-time) graph.

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- 15. Illustrate with a diagram the precise path of rays for an object placed 3 cm from a concave mirror with a focal length of 5 cm, and mention the properties of the resulting image**

Diagram

Properties of the resulting image

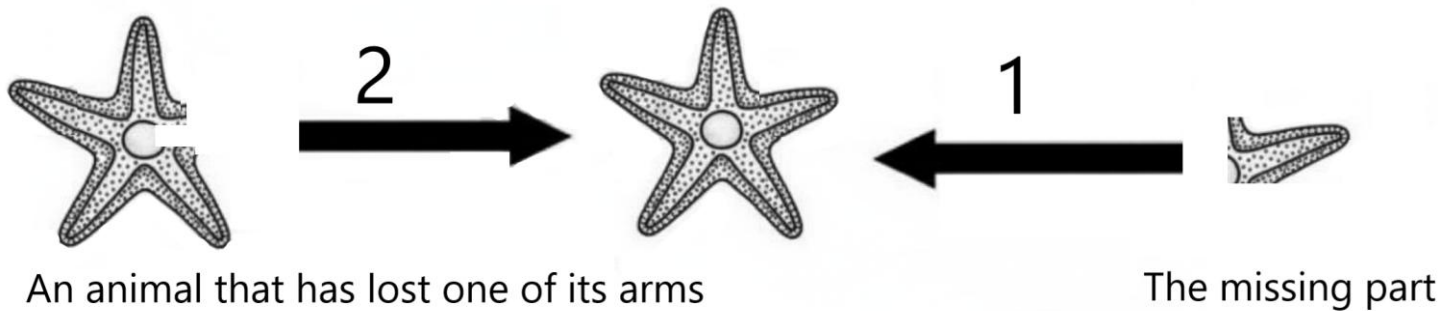
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16. The figure below shows a type of asexual reproduction in a starfish



a) Write the names of the two processes indicated by the numbers.

1.....

2.....

b) What is the condition for process number (1) to occur?

5th) Choose the correct answer from the following:

17. From vector physical quantities are:

- a) radius & area b) time & force c) speed & mass d) force & displacement

18. Object is put at distance 10 cm from convex lens its focal length is 5 cm, so its image will be formed at from body

- a) 10 cm b) 20 cm c) 30 cm d) 40 cm

19. Sun makes two complete rotations around center of galaxy each years

- a) 220 million b) 100 thousand million c) 365 days d) 440 million

6th) When it happens in each of the following?

20. Body moves in one direction

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21. Diminished virtual image is formed in front of mirror

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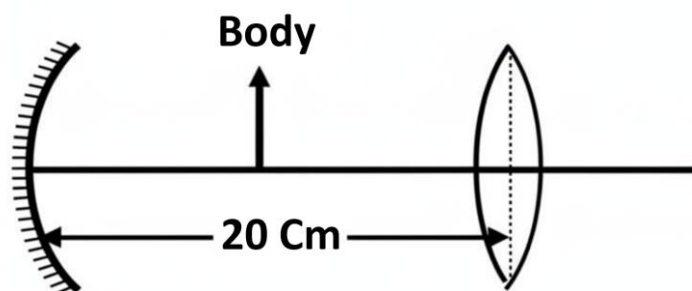
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22. In the opposite figure: An object is placed midway between a convex lens and a concave mirror, each with a focal length of 5 cm.

Calculate

the distance between the two images.



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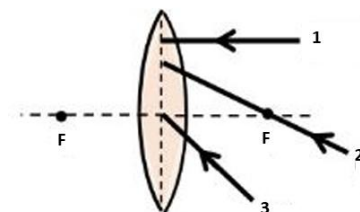
23. Observe the opposite figure and then explain which of the shown rays passes through:

a) Straight

b) Refracted through the focus.

c) State the reason in each case

.....



24- What is the relationship between the genetic structure of both offspring and parents in the following cases:

(1) Binary fission in Paramecium

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(b) The plant resulting from seed germination.

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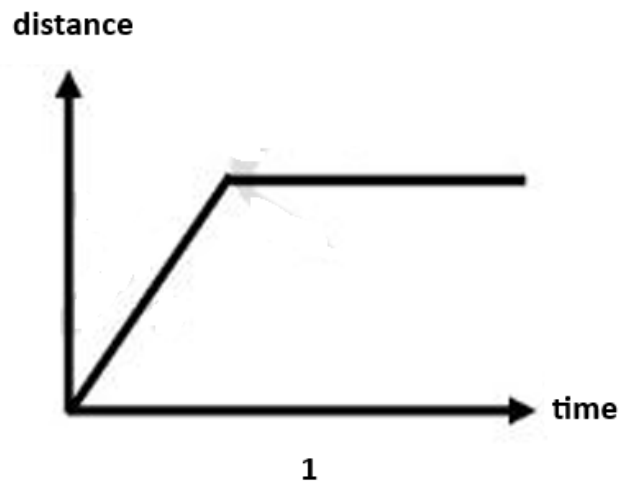
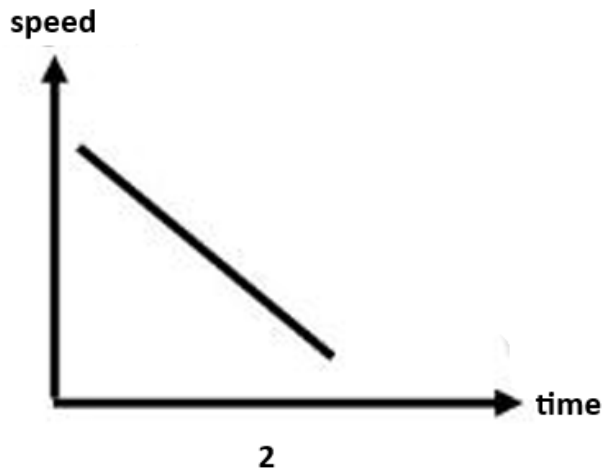
Correct the underlined words in the following statements:

- 25.** The distance of the object from the plane mirror is greater than the distance of its image from it.
- 26.** The age of the sun to this moment is 3 billion years.
- 27.** The nebular theory proposed that the planets formed from the condensation of the gaseous stream extending from the sun

- 28. Two cars (X) and (Y) are moving at the same speed of 30 km/h. If the relative speed of car (X) relative to a moving observer is 60 km/h, and the relative speed of car (Y) relative to the observer is zero.**

How do you explain the difference in the relative speed of the two cars relative to the moving observer?

29. Describe motion of the object each graph:



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30. One of the most dangerous diseases that affects the eye is cataract (white water of the eye):

(a) What causes this disease in the eye lens?

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(b) How can it be treated?

.....

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31. Compare between speed and velocity
(In terms of definition & mathematical relation)

This image shows a full page of white paper with horizontal dashed lines, typical of primary school writing paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

32. The Egyptian scientist Dr. Mustafa El-Saied developed a technology called nanotechnology in the field of medicine to treat patients with a serious disease

a) Who are the patients who benefit from this technology?

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b) How is this technology used in treatment?

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write the scientific term



1. The speed of a moving object relative to a stationary or moving observer.
.....

2. The rate of change of displacement.
.....

3. The ability of a plant to reproduce without seeds.
.....

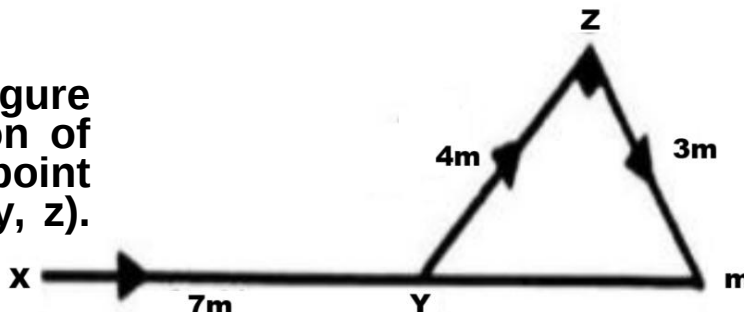
What happens in the following cases?

4. An object moves at a constant speed relative to an accelerator.
.....

5. When an object is placed in front of a convex mirror
.....

6. The nucleus was removed from a living cell.
.....

7. The opposite figure represents the path of motion of an object from point (x) to point (m) passing through points (y, z). Calculate



a. The distance traveled
.....
.....
.....
.....
.....

b. The displacement that occurs
.....
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.....
.....

8. From the figure opposite, answer:

a) What type of cell division does this figure belong to?

.....
.....

b) And what is the importance of this division occurring?

.....
.....



Complete the following sentences

9. The point that is at the center of the reflecting surface of a spherical mirror iswhile the point at the center of the lens sides is
10. A real image cannot be formed by a..... Lens andmirror and plane mirror.
11. According to Laplace's theory,were formed from the gaseous rings separated from the nebula after it cooled, while were formed from the remaining hot masses in the center

12. **A train is moving at 20 m/s with a decelerating acceleration of 2 m/s².**
Find the time required for it to stop.

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13. **What happens if a moving body takes twice the time needed to cover half the distance (in relation to its speed)?**

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- 14. An object is located 4 cm from a convex lens with a focal length of 3 cm. Draw a diagram showing the paths of the incident and passing rays through the lens.**

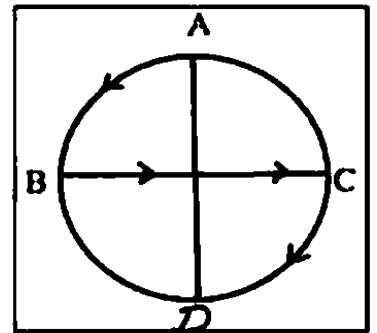
[illegible]

- 15. In the opposite figure,** an object moves in a circular path with a radius of 7 meters and a circumference of 44 meters from point A to B to C to D in 8 seconds...

Calculate:

- a) The speed.**

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- ### b) Velocity

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- 16. Write the number that represents each of the following:**

- The number of cells resulting from the division of an amoeba cell through three successive mitotic divisions.....
- The number of chromosomes in a fertilized egg of an animal if the number of chromosomes in a sperm cell is 20?

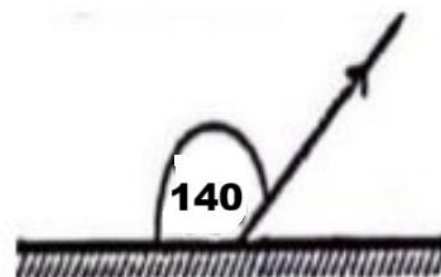
Choose the correct answer from the given options for the following:

17. The motion of an object can be described by two factors:

- a) Speed and time
- b) Area and time
- c) Displacement and speed
- d) Distance and time

18. In the opposite figure: If the angle between the reflected light ray and the surface of the mirror is 140° , then the angle of incidence is equal to...

- a) 20
- b) 30
- c) 40
- d) 50



19. The percentage of helium gas in the universe several minutes after the Big Bang was

- a) 3 %
- b) 25%
- c) 50%
- d) 75%

Give reason:

20. Force is considered a vector quantity.

.....

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21. A converging lens has two focal points, while a converging mirror has one focal point

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22. The focal length of a spherical mirror can be determined by knowing its radius of curvature.

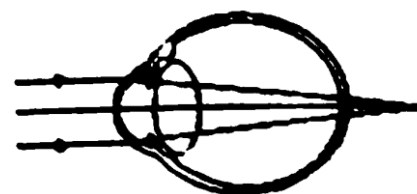
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23. The image opposite represents a vision defect.

What vision defect does this person suffer from?



.....

.....

.....

How is this vision defect treated?.....

.....

.....

24. What happens

(a) when yeast fungus is placed in a warm sugar solution?

.....

.....

(b) Meiosis in the anther of a flowering plant.

.....

.....

Correct the underlined words in the following statements:

25. The focal length of a thick convex lens is equal to the focal length of a thin convex lens.....

26. Each group of stars comes together to form a solar system.....

27. The crossing star is the largest star that can be seen from Earth's surface.....

Compare

28. Distance and displacement: definitions and types of physical quantities.

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29. Mass and acceleration in terms of: (Type of physical quantity – Unit of measurement).

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30. Long sightedness and short sightedness in terms of:
The location of image formation - The type of lenses used to correct vision defects).

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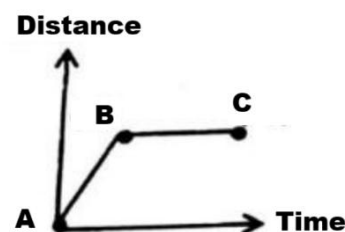
31. From the opposite figure, determine

a) The period during which the object moves at a constant speed

.....

b) The period during which the object's speed is zero

.....



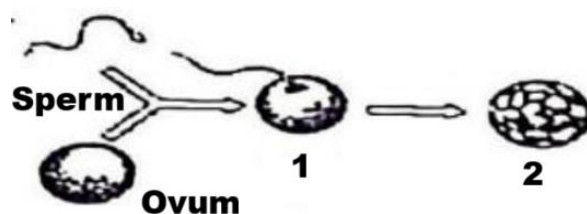
32. The diagram below illustrates one of the processes necessary for reproduction. Answer the following:

a) The operation indicated by number 1

.....

b) The resulting cell name in number 2

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First Question

Write the scientific term for each of the following statements:

1. A space telescope launched in April 1990 and orbiting the Earth at an altitude of 500 km.
.....
2. One of the vision defects occurs as a result of the eye diameter being larger than normal.
.....
3. Asexual reproduction is carried out by different parts of plants without the need for seeds.
.....

What happens in the following cases?

4. A light ray falls perpendicularly on the reflective surface of a flat mirror.
.....
5. The speed of an object changes by equal amounts in equal amounts of time.
.....
6. The diameter of the eyeball increases beyond its normal size.
.....
7. **An object** moves around the circumference of a circle with a diameter of 14 cm. If the object travels a distance of 66 meters, calculate the number of revolutions it makes.
.....
.....
.....

8. **Explain** the phenomenon of crossing over that occurs between the inner chromatids of a tetrad group.

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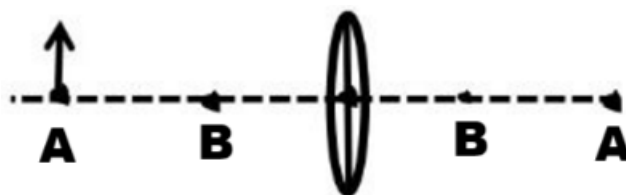
.....

Second Question

Complete the following sentences with the appropriate words:

9. Somatic cells divide.....while reproductive cells divide.....
10. Force is considered a physical quantity.....While mass is a physical quantity.....
11. Hydra reproduces by.....While amoebas reproduce by

12. **What are the characteristics of the image formed of the object shown in the following figure?**



.....

.....

.....

13. **What are the consequences of?**

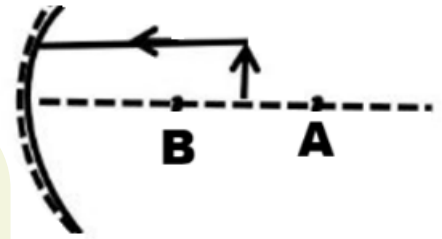
A person with liver cirrhosis needs a donor. Will the donor be harmed? Why?

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14. Illustrate, using only a drawing, the characteristics of the resulting image.



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15. What is meant by the following?

a) Relative speed

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b) Regeneration

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16. A plane that started its journey at 8:00 AM, traveling at a speed of 800 km/h, to cover a distance of 1600 km, is scheduled to arrive at

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Question 3

Choose the correct answer from the given options for the following:

17. The ratio between the displacement traveled by an object and the time taken is equal to:

- a) Acceleration b) Scalar speed c) Velocity vector d) Average speed

18. The number of divisions a bacterial cell undergoes to produce 32 new individuals is

- a) 4 b) 5 c) 6 d) 8

19. The remaining incandescent mass at the center of the nebula formed

- a) the moon b) The planets c) The earth d) The sun

Explain the following:

20. The word "ambulance" is written on an ambulance when viewed backwards.

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21. Spindle fibers contract during anaphase in mitosis.

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22. long sightedness is corrected using a convex lens.

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23. Fred Hoyle relied on a scientific fact to formulate his theory of the origin of the solar system. Explain:

a) This scientific fact

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b) The main assumptions of Hoyle's theory

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24. An elderly man is experiencing difficulty seeing. The doctor tells him that his eye lens has become cloudy.

Explain how you can diagnose this condition

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What can you do to help the elderly man see clearly?

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Question 4

Correct the underlined words in the following statements:

25. The two gases that produced galaxies are hydrogen and oxygen.

26. Light rays converge after passing through a convex lens at a single point called the optical center.

27. Relative speed is the result of dividing the total distance traveled by the total time.

Compare

28. Compare sponges and paramecium in terms of their method of reproduction.

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29. Compare the real image and visual forms of an organism in terms of their definition.

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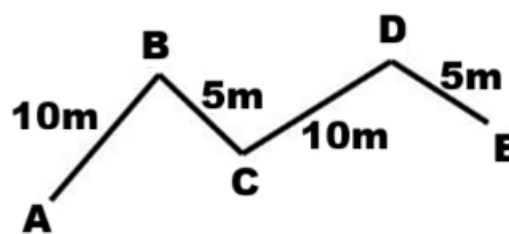
30. Compare Laplace's theory and the crossing star theory in terms of the origin of the solar system.

[illegible][illegible]

31. Study the following diagram:

A car moved from A to E in one minute.

According to the average speed of the car, the car's unit is m/s.



.....

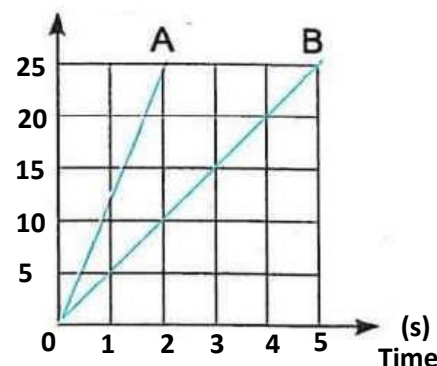
.....

..... Distance (m)

.....

32. From the figure opposite:

Calculate the ratio between the speed of object (A) and the speed of object (B).





Question 1:

Write the scientific term of each of the following statements:

1- The speed of a moving body relative to a stationary or moving observer.

2- A straight line passing Through the centre of a mirror and any point on its surface other than the mirror's pole.

3- In an animal cell, the Centrosome is formed.

2) What happens in the following cases?

4- The speed of the body decreases to half while the time for the distance covered remains constant.

5- The diameter of the eyeball is less than normal.

6- Remove the nucleus from a living cell.

7- An object moves with a speed 25 m/s in 5 seconds, then moves at an average speed 22 m/s in 7 seconds. Calculate the average speed from the beginning to the end of the motion.

8- Explain how sperm and ovals are formed in humans.

2nd) Question 2:

Complete the following statements with the appropriate words:

9- When an object is placed in front of a lens, a virtual, upright, small image is formed.

10- The radius of curvature of a spherical mirror is..... its focal length.

11- The origin of the Solar system, according to crossing star theory, is

12 – Explain why force is considered a vector physical quantity?

.....

.....

13- What is meant by..?

_The displacement of an object is 50 meters eastward.

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14- Show with drawing

The image of an object placed at the centre of curvature of a concave mirror.

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15- Explain why a uniform speed of a car is difficult to achieve.

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16- What happens when...?

_The growing buds in yeast fungus do not separate from the mother cell after they have completed their growth.

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3rd) Question (3)

Choose the correct answer

17- All of the following are examples of motion in one direction except.....

- a) metro b) train c) projectile d) pendulum

18- The amount of change in displacement per unit time is determined by.....

- a) velocity b) Speed c) Distance d) Acceleration

19- The age of the sun to this moment is approximately million years.

- a) 5000 b) 10000 c) 12000 d) 15000

2) Give reason:

20- The movement of a train is an example of movement in one direction.

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21- A convex mirror is placed on the right and left of the car driver.

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21- A convex mirror is placed on the right and left of the car driver.

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22- The focal length of a thin convex lens is large.

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23- What is meant by ...?

(a) The optical centre of the lens.

.....

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(b) Pole of the mirror

.....

.....

24- What happens when..?

_The crossing over phenomenon does not occur during the phase

.....

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Correct the underlined words in the following statements:

25- Contact lenses are placed on the **retina** and can be easily removed.

.....

26- Modern theories that explain the origin of the **universe**. The modern theory

.....

27- The Hubble Telescope revolves around the **sun** at an altitude of 500 km.

.....

2. Compare:

28– Distance and Displacement (definition -- type of physical quantity)

<i>Point of comparison</i>	<i>Distance</i>	<i>Displacement</i>

29– Mass and Force (type of Physical Quantity--unit of measurement)

<i>Point of comparison</i>	<i>mass</i>	<i>force</i>

30- Convex and Concave Mirror (the function)

Point of comparison

concave mirror

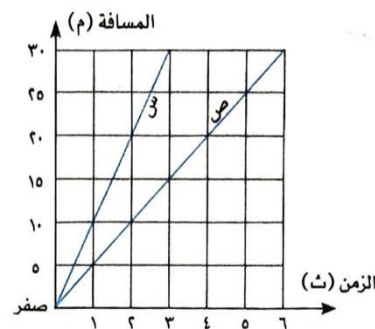
convex mirror

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31- The opposite figure represents a graph (distance – time) of two moving bodies (x) and (y)

A – What type of speed that the two bodies moving at?

B – Calculate the ratio between the speed of the body (x) and (y).



32- The following diagram show one of the biological phenomena



1- This phenomenon is called.....

2- This phenomenon occurs in.....



Question One:

Write the scientific term for each of the following phrases:

1. A physical quantity that can be determined by knowing only its magnitude.

.....

2. The distance between the Pole of the mirror and its focal length

.....

3. The point that between two chromatids of chromosomes

.....

What happens in the following cases?

4. If the average speed of a car moving on a straight road does not equal to its speed at any moment.

.....
.....
.....

5. A plane mirror is placed at right and left of car instead of convex mirror

.....
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.....

6. A somatic cell that is divided mitosis

.....
.....
.....

What's meant by?

7. Body moves distance 60m but displacement is zero

.....
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.....
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8. Sexual reproduction is based on two stages are
and

Question 2:

Complete:

9. The image that can be received on a screen is
10. An object is placed 15 cm from a spherical mirror with a radius of curvature of 15 cm, and an image is formed on a screen. So, the type of mirror is
11. The fusion of the male gamete with the female gamete to form a zygote is

12. The table opposite shows the relationship between speed and time about moving object

SPEED m/s	5	10	20	30	35
TIME s	1	2	4	6	7

- a) From the table, find the speed of the object at time 5 s?
- b) Calculate the acceleration with which the object is moving?

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13. What is the result of...?

When an object starts moving from rest

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14. Illustrate with a diagram only:

- A. The path of light rays incident on the surface of a concave mirror when it is parallel to the principal axis

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15. What are the two basic factors by which the motion of an object can be described?

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16. The nucleus of a cell contains a number of chromosomes that represent the genetic material of the organism. State the general structure and chemical composition of the chromosomes?

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Question 3:

Choose:

17. The change in the position of an object relative to the fixed position of another object over time
a) Motion b) speed c) average speed d) relative speed
18. The radius of curvature of a spherical mirror with a focal length of 10 cm is half the diameter of a spherical mirror.
a) 10 cm b) 15 cm c) 20 cm d) 25 cm
19. The number of galaxies in the universe
a) 100 000 b) 100 million c) 100 000 million d) million

Explain the following:

20. The importance of having a speedometer in airplanes and cars
.....
.....
.....
21. If you look at the surface of still water, you will see an image of your face in the water.
.....
.....
.....
22. An object placed at the focal point of a convex lens does not have an image formed
.....
.....
.....
23. Explain the causes and consequences of cataracts and how they can be treated.
.....
.....
.....
24. How can you explain that mitosis is important for a child's body, unlike meiosis?
.....
.....
.....

Question 4:

Correct the underlined word

25. long sightedness is a vision defect that causes near objects to be seen clearly, while distant objects appear distorted

.....

26. Galaxy clusters are groups of stars that orbit together in outer space due to gravity.

.....

27. Laplace developed the modern theory to explain the origin of the solar system.

.....

Compare:

28. Scalar and vector (def. and examples)

.....

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29. Positive uniform acceleration and negative uniform acceleration (def. and final speed)

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30. Concave and convex lens (Def, kind of focus and type of image)

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31. When body movement is considered the simplest type of movement?

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32. State the vital importance of each of the following

1. Reproduction.

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2. Gold nanoparticles

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Write the Scientific Term: (From 1-3)

1. The regular speed with which the body would travel to cover the same distance in the same time interval.

.....

2. A vision defect in which a person sees nearby objects clearly and distant objects distorted.

.....

3. The process of exchanging pieces of internal chromatids in the tetrad group

.....

Answer the following: (From 4-6)

4. When does the acceleration of a moving body equal zero?

.....

5. An object was placed 4 meters in front of a plane mirror, forming an image X_1 . If both the object and the mirror were moved 1 meter towards each other, a new image X_2 was formed. Find the distance between the two images (X_1 and X_2)?

.....

.....

6. A somatic cell divided five successive divisions. What is the number of resulting cells from this division?

.....

.....

7. In the opposite figure, a body moved from point (A) to point (D) passing through points (B) and (C).

Is the magnitude of the scalar speed equal to the magnitude of the vector velocity? (Question worth 2 marks)

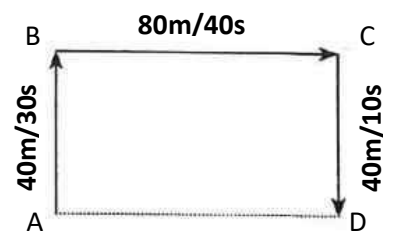
.....

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Explain your answer:

.....

.....



8. The opposite figure represents one of the phases of cell division.



- What is the name of this phase?

.....

- What is the type of division it belongs to?

.....

Correct the underlined word/phrase: (From 9-11)

9. If an object is placed at the focus of a concave mirror, a real, inverted, magnified image is formed.

.....

10 . Dentists use a convex lens during medical examination.

.....

11 . The origin of the solar system in the Modern Theory is the Nebula.

.....

12. A car has a relative speed of 80 km/h with respect to an observer moving with it in the same direction at a speed of 30 km/h. Calculate its actual speed?

.....

.....

.....

.....

13. The figure shows the (distance-time) graph for two moving bodies A and B.

Calculate the ratio between the speed of body A to the speed of body B.

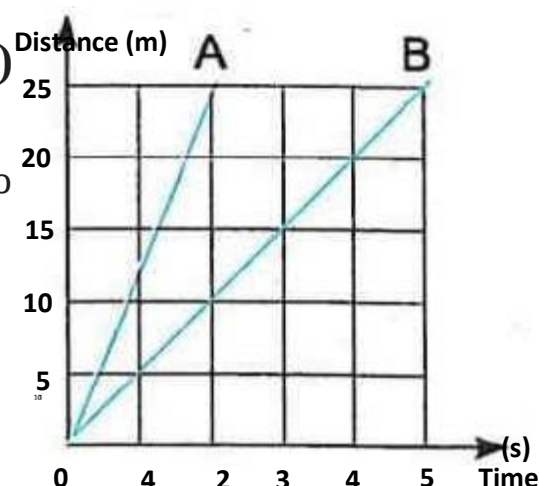
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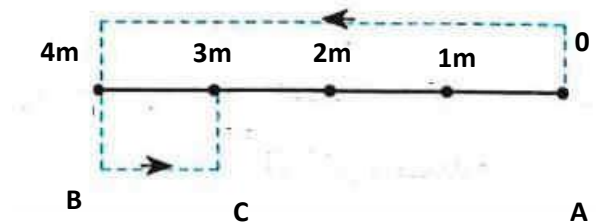


14 . An object was placed 3 cm from the optical center of a convex lens, and a virtual, erect, magnified image was formed.

Show the paths of the rays forming this image by drawing only.

.....
.....
.....

15 . In the opposite figure, a person moved from point (A) to point (B) then changed his direction of movement to point (C).



Calculate:

the Distance covered by the person

.....
.....

the Displacement

.....
.....

16 . Mention one example of:

An animal capable of compensating for its lost parts (Regeneration)

.....

A living organism that reproduces asexually by binary fission

.....

Choose the correct answer:

17 . A uniform speed of 90 km/h equals m/s.

a- 20 b- 25 c- 30 d- 35

18 . A converging lens was placed in front of sunlight, and a very small image of the sun's disk was formed 5 cm from the optical center of the lens. If the same lens was used to obtain an image equal in size to an object, the object should be placed at a distance of from its optical center.

a- 5cm b- 10cm c- 20cm d- 50cm

19 . Life began to appear on Earth about million years after the Big Bang

a- 3000 b- 12000 c- 1500 d- 1700.

What are the results of

- 20 . Doubling the speed of a body and halving the time (with respect to the distance covered).**
.....
.....
- 21 . Placing an object in front of a convex mirror (with respect to image properties).**
.....
.....
- 22 . Placing a piece of paper at the focus of a concave lens directed towards sunlight (with respect to the paper).**
.....
.....
- 23 . An old woman suffers from difficulty seeing. The doctor informed her that the lens of her eye has become opaque.**
- **What is the name of this disease?**
.....
 - **What does the doctor do to enable the old woman to see clearly?**
.....
- 24 . The two opposite figures illustrate two different biological processes.**

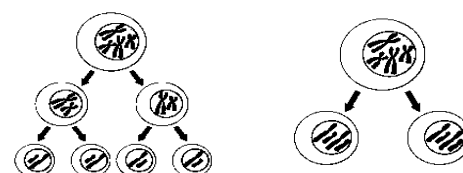


figure 2

figure 1

What is the type of division in the cell for each of the figures (1) and (2)?
.....

What is the importance of the division represented by the cells in Figure (1)?
.....

Complete the following sentences with suitable words:

- 25 .** The secondary axis of a mirror is any straight line passing through the and any point on its surface other than the
- 26 .** The Big Bang theory is one of the theories that explained the formation of the while crossing star theory is one of the theories that explained the formation of the
- 27 .** The two gases that produced galaxies, stars, and the universe over millions of years are and gases.

28. What is the meaning of

"The distance covered by the body in the East direction = 30 meters."

.....
.....

Compare between

:

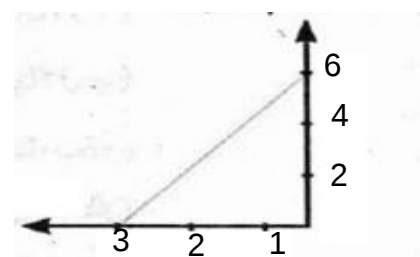
29 . Mass and Force in terms of the type of physical quantity

Point of Comparison	Mass	Force
Type of Quantity		

30 . Compare between a Real Image and a Virtual Image

Point of Comparison	Virtual Image	Real Image
Method of Formation		

31. The opposite figure represents the relationship between velocity – time for a moving body. Study the figure then:



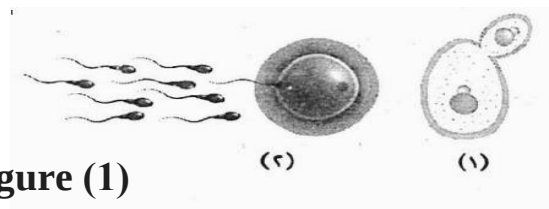
Calculate the acceleration

.....
.....

Determine the type of acceleration

.....
.....

32. The two figures represent two biological processes.



Mention the form of asexual reproduction in Figure (1)

.....

What is the result of the fusion of the male gamete with the female gamete in Figure (2)?

.....



Write the Scientific Term

1. The speed at which a body would move to cover the same distance in the same time.
.....
2. The line connecting the centers of curvature of the two lens faces, passing through its optical center.
.....
3. The part responsible for pulling the chromosomes towards the cell poles during the anaphase stage.
.....

What happens in the following cases:

- 4- If a moving body covers the same distance it traveled in double the time (relative to its speed)?
.....
- 5- When an object is placed at the focus (focal point) of a convex mirror.
.....
- 6- A single Amoeba cell divides three successive times by mitosis.
.....
- 7- A car started moving from **rest** and increased its speed to **20m/s** during **8s**, then its speed decreased to **10m** during another **4s** Calculate the **acceleration** of the car during:
 - a) The first period:
.....
.....
 - b) The second period:
.....
.....

8- If two cells divided, one in a plant root and the other in the anther. Given that the number of chromosomes in each cell is 10 pairs. State:

1- The type of division occurring in each of them:

.....

2- The number of chromosomes in each resulting cell from each division

.....

Complete the following statements with appropriate words:

9- A real image cannot be obtained by mirrors or
..... lenses.

10 - If an object with a height of 2cm is placed at a distance of 4cm from a **concave mirror** with a focal length of 2cm} the image height
.....cm and the image distance from the objectcm

11- The age of the Sun up to the present moment is approximately
..... million years, and it takes about million years
to complete one orbit around the center of the galaxy.

12-What is the meaning of:

"A body covered a distance of 20meters south in 10 seconds

.....

.....

13- What is the result of:

A body moving at a **uniform speed** (with respect to its acceleration)?

.....

.....

14- State one importance for each of the following:

1) Concave Mirror:

.....

2) Convex Lens:

.....

15. Correct what is underlined:

1. If a body moves in a circular path with a radius r to cover a distance equal to πr , its displacement is $2 \pi r$
2. A car that starts its motion from rest moves at a uniform speed

16- Illustrate by drawing with labeling:

1) Metaphase in Mitosis.

.....

.....

.....

.....

2) Anaphase I in Meiosis I

.....

.....

.....

.....

Choose the correct answer from the given options:

17. The ratio between the speed of a body moving at 72km/h and the speed of another body moving at 20 m/s equals.....

a- 3.63

b- 1

c- 0.28

d- 2

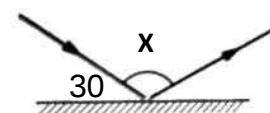
18. If a ray falls on a plane mirror as shown in the figure, the value of the angle X is.....

a- 30

b- 120

c- 60

d- 80



19. Most of our information about the Sun is derived from studying

a- The sun's temperature

b- Its atomic spectrum produced from the Sun

c- Ancient people's perceptions of it

d- Images taken by the Hubble Telescope

Give reasons for the following:

20 - A body moving with acceleration cannot be moving at a uniform speed.

.....
.....

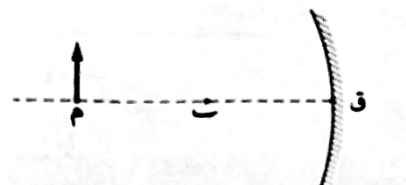
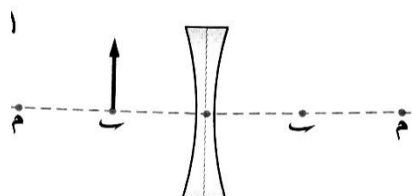
21 - A person suffering from long-sightedness does not see nearby objects clearly.

.....
.....

22 - Many people cannot write correctly while looking at the page through a plane mirror.

.....
.....

23 - From the following two shapes, determine the position of the image formed in each shape by drawing only two light rays:



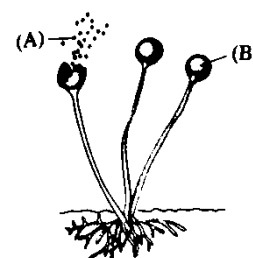
24 - The opposite figure shows an organism reproducing asexually.

- a) Write the data for (A) and (B), then explain what happens when structure (A) falls in a suitable environment.

.....
.....
.....

- b) What is the type of cell division that occurs during the reproduction of this organism?

.....
.....



Correct what is underlined in the following statements:

25 -If an object is placed at a distance of 30cm from a convex lens with a focal length of 15cm an image is formed at a distance of 15cm from the object.

.....

26 -The theory built on the phenomenon of the flaring of stars for a short period, then the gradual disappearance of the flaring, is the Nebular Theory

.....

27- The first appearance of primitive organisms on Earth began after the formation of the galaxies

.....

28- Compare between:

Comparison Aspect	Displacement	Magnitude of Displacement
Definition		

29-

Comparison Aspect	Positive Uniform Acceleration	Negative Uniform Acceleration
Graphical Representation		

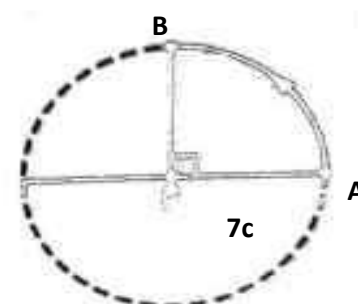
30-

Comparison Aspect	Convex Lens	Concave Lens
Properties of the image formed when the object is placed at twice the focal length (C)		

31- In the opposite figure, a body moved from point (A) to point (B). Calculate

a) The Distance Traveled

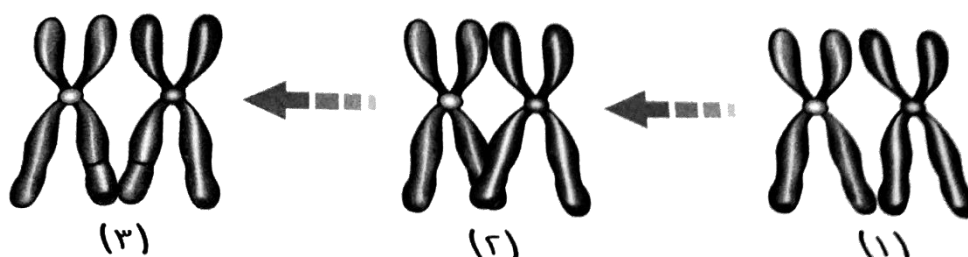
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b) The Displacement

.....
.....

32- Explain the phenomenon represented by the following figures by writing the appropriate explanation below each figure, and mention the importance of the phenomenon.



.....
.....
.....



Write the scientific term for each of the following statements:

1- Rate of change in displacement

.....

2- One-quarter radius of a spherical mirror

.....

3- Formation of a tetrad in cell division

.....

What happens in the following cases:

4-A moving object travels a certain distance in a unit of time

.....

.....

5-The angle between the incident and reflected rays was 90° .

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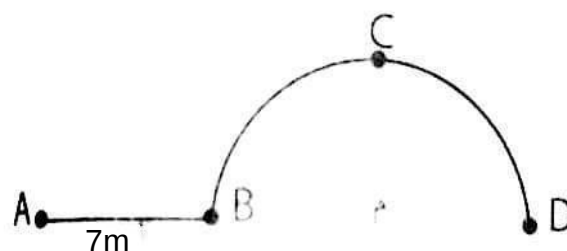
6- A skin cell divided 3 successive divisions.

.....

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7- From the opposite figure:

The object moved from A to D, passing through point C, and its total displacement was 21 m. Calculate the standard speed at which the object moved if the time of movement was 4 s.



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8- State the number that indicates:

(1) The number of chromatids produced in a liver cell immediately after division if the number of chromosomes in a sperm cell is 23

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.....

(2) Number of times genetic material duplicates during meiosis.

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.....

Complete the following statements with the appropriate words:

9-An object placed at a distance of cm from a concave mirror with a radius of curvature of 20 cm will not form an image.

10- If the angle between the reflected ray and the surface of the mirror is 30° , then the angle of incidence is degrees.

.....

11- The Big Bang was caused by the of the gaseous sphere

12- What does an observer see when their car moves alongside another car on the same road at the same speed?

.....
.....

13- What is the result of:

A body rotating in a curved path with a radius of 7 m through a complete revolution (with respect to the displacement)

.....
.....

14- Illustrate, using a diagram only, the path of rays from an object at a distance 8 cm from a convex lens whose centers of curvature are 20 cm apart.

.....
.....
.....

15- An object moves half a revolution in a circular path with a radius of 10 meters and a circumference of 50 meters. Calculate the difference between the distance traveled and the displacement.

.....
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16- Calculate the number of gametes resulting from the division of 10 cells in the reproductive cells

.....
.....

10th) Choose the correct answer:

17- The ratio between the final velocity and the initial velocity of an object moving with decreasing acceleration isone.

a - Less than b - Equal to c - Greater than d – Double

18-An object 10 cm long is placed 15 cm from a concave mirror with a focal length of 10 cm. The image length is cm.

a - 10 b - 8 c - 12 d – 5

19-If the distance between a star and the sun is 28.38×10^{12} km, then the star is about light-years away from the sun.

Explain the following:

20-An object moving with zero acceleration moves at a constant speed.

.....
.....

21- The curvature of the eye's lens is related to shortsightedness.

.....
.....

22-A concave mirror sometimes similar plane mirror

.....

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23- An object is placed midway between a plane mirror and a concave mirror, with a distance of 60 cm between them. The image formed by the object is the same size in both mirrors. **Calculate:**

a) The focal length of the concave mirror.

.....

.....

b) The distance of the image formed by the plane mirror.

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24- How can you distinguish between:

A - a somatic cell and a reproductive cell

.....

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B - a reproductive cell and a gamete

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Correct the underlined words in the following statements:

25-Placing an object at a distance 8 cm from concave lens its focal length is 10 cm forming a magnified real image.

.....

26-The gaseous cloud at the center of the nebula formed the sun, not the planets.

.....

27-It is true that the sun is the original solar system.

.....

Compare:

28 - Distance and displacement in terms of direction

Point of comparison	Distance	Displacement
Direction		

29 - Speed and acceleration in terms of rate of change

Point of comparison	Speed	Acceleration
Rate of change		

30 - The real image and the virtual image in terms of the light rays formed from it:

Point of comparison	Real image	Virtual image

31- **What are the results of:**

1- Increasing both the distance traveled by the moving object and the time of movement to double with respect to the speed of the object?

.....

2- The observer moved at the same speed and in the opposite direction to the moving object with respect to its relative speed.

.....

32 - **Illustrate**, using only a diagram, the difference between the metaphase phase in mitosis and meiosis.

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فؤجبه عام العلوم بالشرقية



1st) Write the scientific term for each of the following statements:

1. The length of the shortest straight line between the starting and ending points.

.....

2. The distance between the center of curvature of a mirror and any point on its reflecting surface.

.....

3. An organelle in the cell responsible for cell division.

.....

2nd) What happens in the following cases:

4. The position of an object relative to a fixed reference point does not change over time.

.....

.....

5. If an object approaches a plane mirror at a distance of one meter relative to the distance between the object and its image

.....

.....

6 - An animal cell does not contain a centrosome

.....

.....

7. . Two aircraft of the same type and condition (X) and (Y) took off from the same airport in opposite directions, each to a different city at the same distance from the point of departure. The first aircraft took less time and consumed less fuel than the other. Explain why.

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8. . Illustrate with drawing the crossing over phenomenon, showing its role in enhancing the ability of living organisms to survive.

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Complete the following statements with the appropriate words:

9. The ratio between the focal length of a lens and its diameter of curvature is.....
- 10 . When an object 5 cm long is placed in front of a concave mirror with a focal length of 5 cm, 10 cm from its pole, the image length is cm
- 11 . If the angle between the incident light ray and the reflecting surface is 125° , then the angle between the incident light ray and the reflected light ray is.....

What happens in the following cases?

- 12 . You place a flower in your right pocket and look in a plane mirror?

What happens when you look in a plane mirror?

.....

.....

.....

What is the result of...?

- 13- Increasing the final speed of an object that started from rest moved in the same amount of time by double and relative to its acceleration ?

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- Illustrate with a drawing only

14- Illustrate with a drawing, showing the properties of the image formed of an object in front of a concave mirror at a distance from it less than its focal length?

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15 - Why don't you use a concave mirror on the right and left side of a car?

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16 - Assuming that the division of an amoeba cell takes 20 minutes, how many cells will result from the division of one cell after 80 minutes?

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Choose the correct answer from the given options for the following:

17. Light moves in space with:

- a- uniform acceleration
- b- with zero acceleration
- c- with positive acceleration
- d- with negative acceleration

18. long-sighted is caused by:

- a) the diameter of the eyeball is larger than normal
- b) the lens of the eye is over-curved.
- c) the lens of the eye is less curved
- d) cataracts are present in the lens of the eye.

19-The age of the solar system so far is million years.

- a) 3000
- b) 10000
- c) 5000
- d) 20000

11th) Explain the following:

20- Is it practically difficult to achieve constant speed?

.....
.....

21 - Mercury is considered the fastest planet in orbiting the Sun, while Neptune is the slowest.

.....
.....

22- According to the nebula theory, gaseous rings separated from the nebula sphere.

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23- Archimedes was able to burn the ships of the invading Roman fleet using a piece of light. What was this piece of light, and why did he choose it?

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24 - **How can you:**

1- How can a field of tomatoes be grown from a tomato plant that has good properties?

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2- How can a starfish regenerate one of its lost arms?

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Write (T) or (F) next to each of the following statements:

25- The principal focus is real in a concave lens and in a convex mirror()

26- If a human liver cell contains 46 chromosomes, then the number of chromosomes in a reproductive cell in the testis is 23 chromosome ()

27- The sun completes a complete cycle around the center of the universe every 220 million years ()

Compare:

28-

Point of Comparison	Distance	Acceleration
Unit of Measurement		

29 -

Point of Comparison:

Point of Comparison	Weight	Displacement

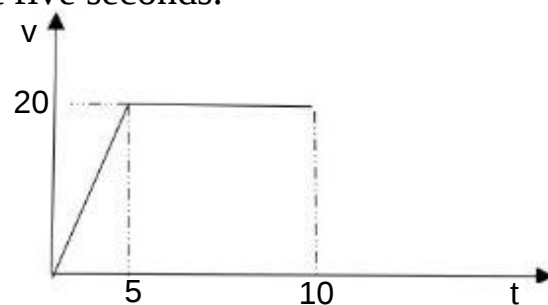
30 -

Point of Comparison	long sightedness	Short sightedness
Treatment Method		

31- **In the opposite figure:**

- Calculate the acceleration of the object in the first five seconds.

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.....
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.....



- Then calculate the distance traveled in the last five seconds.

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32 - The following diagram illustrates:

The diagram opposite represents one of the stages of cell division in a living organism.

What is the name of this stage?

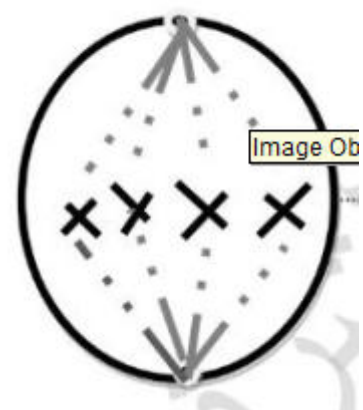
.....

What type of cell division?

.....

What type of cell does it occur in?

.....





Write the scientific term for each of the following statements:

1- An object whose position does not change by time passes .

.....

2- The product of half the speed of a moving object and twice the time it takes to move.

.....

3- Cells specialized in producing gametes.

.....

2nd) What happens in the following cases:

4- If the relative speed is greater than the actual speed of the moving object.

.....

.....

.....

5- Placing a concave mirror on the driver's left instead of a convex mirror.

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6 - The disappearance and absence of the centrosome in the animal cell.

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7- Two cars are, the distance between them is 150 km. If the first car moves at 60 km/h east and the second at 40 km/h west, after how many hours will the two cars meet?

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8- In a plant stem cell, mitosis occurred, resulting in 1024 cells. How many divisions did the parent cell undergo?

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Complete the following statements with the appropriate words:

9- The focal length of a concave mirror is equal to the distance between the and the

10- A spherical mirror has one axis and an infinite number of axes.

11- The origin of the solar system in the modern theory of the scientist is

12- **From the opposite figure:**

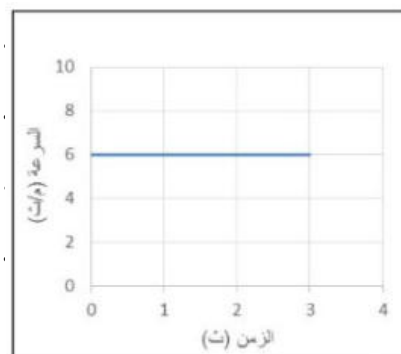
1- The distance traveled after 3 seconds from the start of the motion.

.....

.....

.....

.....



2- The acceleration of the object after 5 seconds.

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13- **- What is the result of...?**

The magnitude of the scalar speed equals the magnitude of the velocity of a moving object.

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14 - An object is placed in front of a convex lens with a radius of 40 cm. A real image is formed, the same size as the object but inverted. Illustrate with a drawing where the object is located.

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15 - A swimming pool is rectangular, 15 meters long and 6 meters wide. What is the distance and displacement covered by a swimmer swimming Going and coming?

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16- What are the steps involved in the crossing over phenomenon? When does it occur?

.....

.....

Choose the correct answer from the given answers for the following:

17 - A body is said to move with uniform positive acceleration when.....

a- $v_1 = v_2$ b- $v_1 < v_2$ c- $v_1 > v_2$ d- v_1 twice v_2

18- An image of the sun is formed by a converging lens with a radius of 10 cm. The focal length of the lens is

a- 10 cm b- 15 cm c- 5 cm d- 25 cm

19- The first life forms appeared on the earth after million years following the Big Bang.

a- 3000 b- 10000 c- 12000 d- 17000

Explain the following:

20- Physicists use some mathematical tools such as tables and graphs.

.....

.....

.....

21- A concave lens is used to treat short-sighted .

.....

.....

.....

22 - The continuous expansion of cosmic space.

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.....

.....

23- Explain how long-sight is corrected, showing the image before and after treatment.

.....

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24- How can you differentiate between individuals resulting from sporogony and regeneration based on the method of reproduction? Give an example.

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Correct the underlined words in the following statements:

25 - A spherical mirror has a focal length of 20 cm. Its diameter is 200 cm.

.....

26 - Eight planets rotate around the Milky Way, including Mars.

.....

27- The modern theory of the scientist Laplace

.....

Compare the following:

28 -

Comparison point	Distance	Displacement
Definition		

29-

Comparison point	Scalar Quantities	Vector Quantities
Definition		

30-

Comparison point	real Focus	Virtual Focus
Definition		
Type of Lens		

31- In the opposite figure :

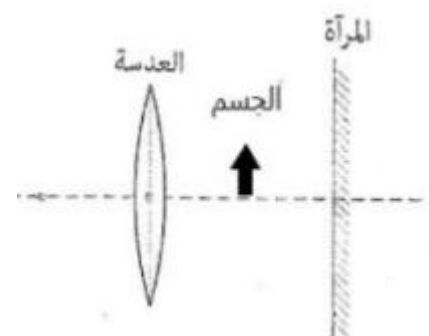
The object is 5 cm from the mirror and the lens, which has a focal length of 3 cm.

1- What type of image is formed in the mirror?

.....

2- What type of image is formed in the lens?

.....



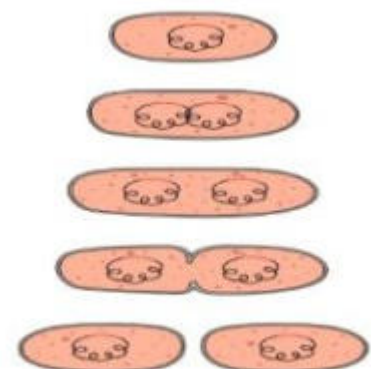
32- From the following figure, answer the following questions:

1- What type of reproduction is this?

.....

2- What type of division is this?

.....



Question [1]

Write scientific term for each of the following statements

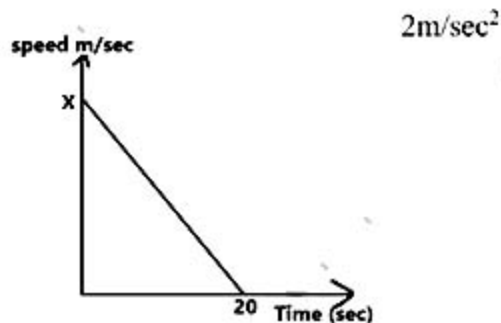
- 1) The regular speed by which the moving object moves to cover the same distance at the same period of time.
.....
- 2) Vision defect resulted due to decreases the focal length of eye lens
.....
- 3) Resulted cells by reduction division and contain half number of chromosomes of mother cells
.....

What happen in the following cases?

- 4) Body moves by negative uniform acceleration
.....
.....
.....
- 5) put an object at distance 20 cm for convex mirror has focal length 10 cm
.....
.....
.....
.....

- 6) farmers cut arms of star fish & not contain part of central disc
.....
.....
.....

- 7) in the opposite figure if the car moves by acceleration its value calculate the value of speed at point (X)?



79 226

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Question Two

- 9) Acceleration is vanished when it's speed equals to speed
- 10) Car takes 3 seconds reach its speed to 10 times its initial speed so the speed of car moves by acceleration equal initial speed
- 11) Age of sun until this moment nearly Million years
- 12) Show by graphical representation
Body moves with uniform speed, then stop motion" from relation (distance – time)

-
-
-
-

14) Show by drawing only

Concave mirror has focal length 5 cm, put body at distance 8 cm from its pole show by drawing of the properties of formed image?

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15) Car moves by speed 5 m/sec and after 1 second it becomes 10 m/sec and after another second increases by value 15 m/sec after using brakes the speed becomes 10 m/sec during 2nd & 3rd seconds and in 4th second its speed becomes 10 m/sec then using the brakes then stop at 5th second represent this graphically only?

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16) The cell of ovary of flower has number of chromosomes (2n) divided meiosis. Calculate the total number chromosomes in produced cells from 2nd telophase.

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Question three

Choose the correct answer

- 17) The relative speed for moving object 30 km/h relative to an observer moves by same speed in the same direction equal
- Ⓐ zero Ⓑ 30 km/hr Ⓒ 60 km/hr Ⓓ 90 km/hr
- 18) Put an object at 10 cm from the pole of formed real , magnified image , and when moves 2 cm away from the mirror form equal image so the focal length of concave mirror equal
- Ⓐ 20 cm Ⓑ 12 cm Ⓒ 6 cm Ⓓ 8 cm
- 19) theory assumed the solar system is formed from extension of side of the sun that face huge star and form gaseous line
- Ⓐ nebular Ⓑ big bang Ⓒ crossing star Ⓓ fred hoyle

Give reason

- 20) Uniform speed of the body is practically achieved

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- 21) Treatment the shortsightness using glasses of concave lens

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- 22) Nebula lost it spherical shape and change into flat rotating disk

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- 23) Object put in front of reflecting surface of plane mirror, so the distance between object to formed image is 5 meters and when the plane mirror moves a distance becomes the object away from its image 4 meters? Determine the distance that moved by mirror and its direction relative to body?

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- 24) Show by drawing only how crossing over phenomena occurs during meiosis division?

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Question four

Correct the underline word in the some statements

- 25) If the a body is put at focus of concave mirror form real equal image of the body
-
- 26) After passing minutes from big bang form clouds of helium and hydrogen gases by ratio 1 : 1 respectively
-
- 27) Fred hoyel exploits explosion of star phenomena to explain origin of universe
-

Compare between

28)

Point of comparison	Distance	Displacement
Definition		
Type of physical quantities		

29)

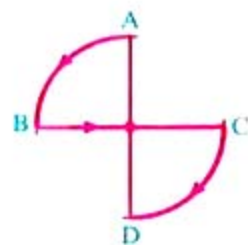
Point of comparison	Star fish	Bread mould fungus
Reproduction		

30)

Point of comparison	Short sightdenss	Long sightdenss
Reasons		

31) In the opposite figure

Body moves in circular its diameter 14 cm from point (A) to (D) passing through (B) & (C) during 10 seconds, calculate the speed and velocity of the object?



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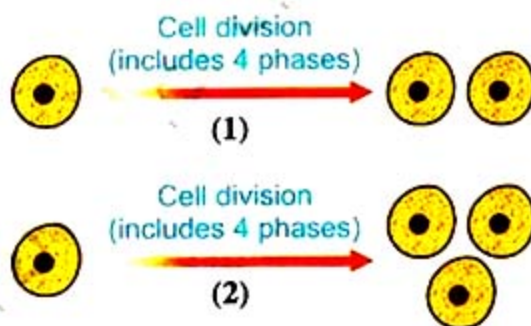
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32) From the opposite figure

a) Which of the following figures has wrong scientific?



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.....

b) Mention the type of division in of correct figure?

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Question [1]

Write scientific term for each following statements

- 1- Rate of time for change in displacement

- 2- Diseases effect an eye and form image in un-position and use concave lens to treat

- 3- Fusion between male and female gamete to form a cell contain complete genetic material

What happen in the following cases?

- 4- Starfish lose one of its arms without contain a part of central disc

- 5- Falling light rays parallel to principle axis on convex mirror

- 6- An reproductive cell divided in human meiosis division

- 7- Car moves by uniform speed cover 1000 meters during 4 seconds, then apply the brakes the car stops after 10 seconds. Calculate the acceleration of car and its type

- 8- Discus the role of scientists against cancer, what is the used technology?

Question two

Complete the following statements with suitable words

- 9- Can obtain the real, inverted, diminished image using or
- 10- From examples of the scalar physical quantities is While from examples of the vector physical quantities is
- 11- In mitosis division, spindle fibers formed in and disappear is
- 12- A person covers 40 meters northward then 80 meters southward then 30 meters eastward in total time 100 seconds. Calculate the speed and velocity

.....

.....

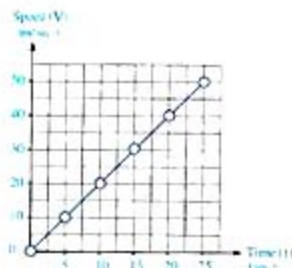
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13- From the opposite figure calculate the

- a) Acceleration
- b) The speed after 4 seconds



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14- Show by drawing only

Properties of formed image of concave mirror that its radius 4 cm and object at distance 6 cm of mirror

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15- Mention of two examples in your daily life in one direction

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16- If you know the number of chromosomes in liver cell (somatic cells) for rat is 40
Answer the following

(1) What is the number of chromosomes in gametes of sperm or ovum of this rat?

.....
.....

(2) What is the number of chromosomes in produced cells result from liver cells mitotically?

.....
.....

(3) What is the number of chromosomes in zygote produced of fertilization of ovum?

.....
.....

Question three

Choose the correct answer

17- If the car moves 100 meters in 5 seconds , the average speed

- ☐ A 10 m/sec ☐ B 20 m/sec ☐ C 50 m/sec ☐ D 100 m/sec

18- At putting object is put a concave mirror on less than focal length, the formed image is

- ☐ A real, inverted, diminished ☐ B virtual, upright, magnified
☐ C virtual, upright, magnified ☐ D virtual, inverted, diminished

19- The spindle fibers are formed in animal cell by

- ☐ A nucleus ☐ B central body (centrosome) ☐ C centromere ☐ D cytoplasm

Give reason

20- The velocity may equal to speed for moving object

.....
.....
.....

21- Impossible to intersection of reflected light ray in convex mirror

.....
.....
.....

22- Asexual reproduction is preferred in suitable condition

.....
.....
.....

23- Compare between sexual and asexual reproduction according to:-

Number of parents – genetic traits relative to parent – type of division is used

.....

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24- Write about cataract diseases (description – reasons – treatment)

.....

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Question four

Put right or wrong with correction

25- Displacement is straight distance that covered by object in constant direction from start point to end point

.....

26- Solar system is groups of stars , planets , moons , gases and dust universe

.....

27- The prophase is phase where the cell is prepared for division by duplication of genetic material

.....

Compare between

28-

Point of comparison	Distance	Displacement
Definition		
Type of physical quantities		

29-

Point of chromosomes	Longsightedness	Shortsightedness
Reasons		
Treatment		

30-

Point of comparison	Sexual reproduction	Asexual reproduction
Number of parent		
Type of division		

31- What is the type of mirror used in left side of drivers of cars, what is the properties of formed image?

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32- What is the type of phase in opposite figure? What its characteristics?

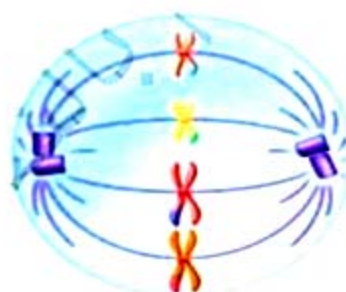
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Model (15)

Question One:-

- Write the scientific term for:

1. The acceleration at which an object moves when its speed decreases over time.
.....
2. A disease that affects the lens of the eye and makes it opaque.
.....
3. A stage in which the pairs of homologous chromosomes move towards the cell's equator.
.....

What happens in the following cases:

4. If an object covers half the distance in twice the time (relative to its speed).
.....
.....
5. Placing an object between the focus and pole of a convex mirror..
.....
.....
6. Continued contact of the buds with the wall of a yeast fungus.
.....
.....
7. A body moves in a circular path with a radius of 7 meters. If it completes one and a quarter revolutions in 10 seconds:

Calculate:

- (a) The magnitude of the displacement.
.....
.....

- (b) The speed.
.....
.....

8. Explain the relationship between the genetic structure of the offspring and the parents in the following cases:

(a) Binary fission in amoebas.

.....
.....
.....

(b) Sexual Reproduction.

.....
.....
.....

Question 2:

Complete the following statements with the appropriate words:

9. The focal length of a concave mirror is equal to the distance between

..... and

10. Real images cannot be formed by..... lenses or.....

Mirrors and plane mirror.

11.....is used to show the different wavelengths emitted by the sun.

12. What is meant by the relative speed?

.....
.....
.....

13. **What is the result of...?**

1. The motion of a body at a constant speed (with respect to its acceleration)

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14. Explain with a drawing only:

- How to obtain a real, inverted, magnified image using a concave mirror.

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15. What does it mean that: an object moves with a uniform positive acceleration of 4 m/s^2 .

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16. Compare the changes occurring in prophase and telophase of mitosis cell division.

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Question Three:

Choose the correct answer from the given answers for the following:

17. The two factors that can describe the motion of an object are.....

- a) Speed and time.
- b) Distance and time.
- c) Area and time.
- d) Displacement and force.

18. Dentists use amirror during the medical examination.

- a) Concave.
- b) Convex.
- c) Plane.
- d) Cylindrical.

19. The age of the sun to the present momentMillion years.

- a) 5000
- b) 1000
- c) 3000
- d) 12000

Explain the following:

20. The importance of having a speedometer in airplanes.

.....

.....

.....

21. A convex mirror is placed on railway platforms.

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22. The word "ambulance" is written Laterally inverted on the front of ambulance cars.

.....

.....

23. An object is placed 8 cm from a spherical mirror with a radius of curvature of 16 cm, and no image is formed.

And when the mirror is moved 5 cm away from the object, an image is formed on the screen.

(a) What type of mirror is it?

.....

.....

(b) Determine the location and properties of the formed image.

.....

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24. What is the importance of the crossing over phenomenon, and in which phases does it occur?

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.....

Question (4):

Correct the underlined word:

25. Short- sightedness is corrected using a convex mirror.

.....

26. The origin of the solar system in the modern theory is the sun.

.....

27. The sun completes a full revolution around the centre of the galaxy every 9.46 million years.

.....

Compare between:

28. Distance and displacement in terms of concept and type of physical quantity.

Points of comparison	<u>Distance</u>	<u>Displacement</u>
Definition		
Type of physical Quantity		

29. Regular speed and irregular speed.

Points of comparison	<u>Regular speed</u>	<u>Irregular speed</u>

30. Long-sightedness and short-sightedness in terms of:

- Causes – Position of Image formation

Points of comparison	<u>Long-sightedness</u>	<u>short-sightedness</u>
Causes		
Position of Image formation		

31. From the opposite figure,

In the opposite figure:

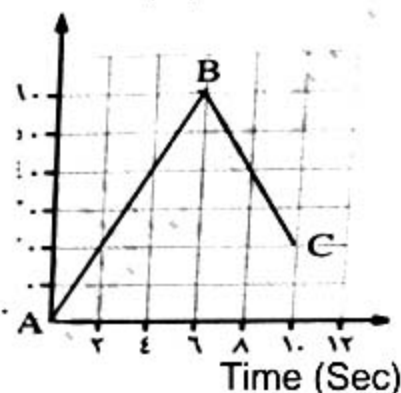
Calculate:

- (a) The speed of the body.

.....

.....

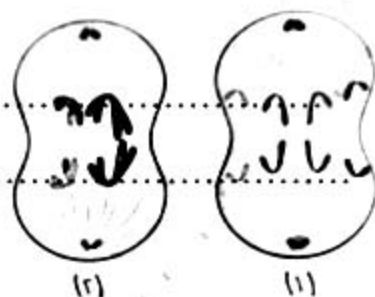
Displacement (m)



- (b) The magnitude of the velocity.

.....

.....



32. **In the two figures opposite:**

(a) Which phase does each of (1) and (2) represent?

.....

.....

2

1

(b) State one difference between the change occurring in each of the two phases (1) and (2).

.....

Model (16)

Question (1):

Write the scientific term for each of the following statements:

1. The rate of change in velocity.

.....

2. An image formed when an object is placed before the focal point of a converging mirror.

.....

3. Substances that adhere to the surface of cancer cells and help nanoparticles detect them.

.....

4. What is meant by a Scalar physical quantity?

.....

What happens when:

5. A plane mirror is placed to the left of the driver instead of a convex mirror?

.....

6. Absence of the nucleus from somatic liver cells

.....

7. A rectangular swimming pool is 15 meters long and 6 meters wide. What is the distance and displacement covered by a swimmer swimming going and returning back.

.....

.....

.....

8. **Explain the following statement:**

Reproduction in yeast is similar to that in sponges.

.....

.....

Question (2):

Complete the following statements with the appropriate words:

9. From the Examples of vector quantities.....

.....

10. If an object 1 cm length is placed 6 cm from a concave mirror with a focal length of 3 cm, the length of the formed image is equals.....

.....

11. According to the Big Bang theory, within minutes of the universe's creation, the ratio between hydrogen and helium gases was equal to.....

.....

12. A car moved at a regular speed and covered a distance of 80 meters in 4 seconds. Then its driver applied the brakes, and it took: more 4 seconds until it came to a complete stop.

Find the values of the speed and acceleration during the first 80 meters?

.....

.....

.....

13. Two cars are moving from the same starting point. The first is moving at a speed of 60 km/h, and the second is moving at a speed of 80 km/h. Calculate the difference in time between the two cars to reach the finish line, which is 120 km away from the starting point.

.....

.....

.....

14. An object is placed a distance of 10 cm from a spherical mirror with a radius of curvature of 12 cm. The mirror is then moved 2 cm toward the object, and an image is formed. Determine the type of mirror and the position and properties of the image, illustrating your answer with a drawing.

.....

.....

.....

.....

.....

.....

15. A race car moves 60 times around a circular track with a circumference of 3.6 km in a time of 2.4 hours. Calculate the average speed.

.....

.....

.....

16. Explain why new grape races cannot appear if reproduce by vegetative reproduction.

Question (3):

Choose the correct answer from the given options for the following:

17. The two factors that can describe the motion of an object are:

- a) Speed and time
- b) time and area
- c) Force and displacement
- d) Distance and time

18. If an object is placed at 50 cm from a concave mirror with a focal length of 20 cm, an image is formed of it at a distance.....cm.

- a) greater than 40
- b) less than 20
- c) less than 40
- d) equal 20

19. The appearance of primitive organisms on Earth began after:

- a) before the formation of galaxies
- b) After the formation of the solar system
- c) After the appearance of dinosaurs
- d) After the appearance of birds

Explain the following:

20. An object moving at a regular speed has an acceleration equals zero.

21. No image is formed of an object placed at the focal point of a convex lens.

.....
.....

22. A thin, hollow glass sphere with a shiny outer surface and a diameter of 24 cm, a suitable part of which was cut from it in the shape of a mirror.

- What type of mirror is formed?

.....
.....

- Calculate the focal length of this mirror.

.....
.....

- What are the properties of the image formed by this mirror when the object is placed 12 cm from its pole?

.....
.....

23. What are the consequences of increasing the diameter of the eye diameter beyond its normal size?

.....
.....
.....

24. Two cells in a plant divided, one in the stem and the other in the ovary.
If you know that the number of chromosomes in each is 8 pairs,

- What type of division occurs in each?

.....
.....

- And the number of chromosomes in the cells resulting from the division of each cell?

-
-
- What type of reproduction occurs in the plant?
-
-

Question (4):

Answer the following questions:

25. Explain why a lens has two foci while a spherical mirror has only one?
-
-

26. What are the results of the fusion of atomic particles minutes after the Big Bang?
-
-

27. The spherical nebula lost its spherical shape and transformed into a rotating flat disc according to Laplace's theory. Explain this.
-
-

Compare between:

28.

Points of comparison	<u>Positive uniform acceleration</u>	<u>Negative uniform acceleration</u>
Definition		

The relation between initial and final speed		
The sign		

29. What are the results of an observer moving in the same direction as the object and at the same speed?

.....

.....

.....

.....

30. Illustrate with a diagram, mentioning the image Properties:

- An object placed in front of a concave lens at a distance greater than its focal length and less than twice its focal length?

.....

.....

.....

.....

31. What is meant by relative speed?

.....

.....

.....

.....

32. Mitosis is important for children, unlike meiosis.

How true is this statement? Explain.

.....

.....

Model (17)

Question 1:

Write the scientific term for each of the following statements:

1. The product of half the speed of a moving object and twice the time it takes to move.
.....

2. A mirror forms always a minimized image of objects.
.....

3. A mass of cells resulting from the continuous abnormal division of living cells.
.....

What happens in the following cases:

4. A moving object takes twice the time to travel half the distance.
.....

5. If a moving object takes twice the time to travel half the distance.
.....

6. Absence of the nucleus from somatic liver cells.
.....
.....

7. Two cars are moving on a slope. The first car goes up the slope with an initial speed of 20 m/s and an acceleration of -2 m/s^2 . The second car goes down the same slope with an initial speed of 5 m/s and an acceleration of 5 m/s^2 . If the two cars meet after 6 seconds.

- Calculate the relative speed of the first car as observed by the driver of the second car.
.....
.....
.....

8. the figure opposite:

- What is the name of the phase that the figure represents?

.....
.....

- Why does the cell go through this phase?

.....
.....

Question(2):

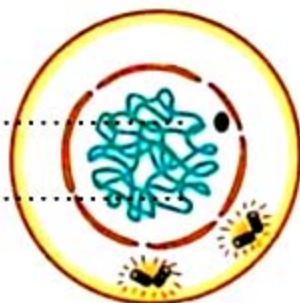
Complete the following statements :

9. When the reflected light ray is perpendicular to the incident light ray, the angle of incidence is equal to.....
10. A person who holds a book close to their eyes while reading suffers from.....and this condition is corrected using Lens.
11. The sun and then the planets were born after..... years from the beginning of the formation of galaxies.
12. When is the final speed of an object moving from rest equal to time?

.....
.....

13. An object moves in a straight line according to the relation $v = 2\sqrt{t}$. Calculate the speed of the object after a time 2 sec from the start of the motion.

.....
.....
.....
.....



14. Illustrate with a diagram the path of the rays forming the image of an object of 3 cm length placed at 8 cm from a convex lens with a focal length of 5 cm, mention the properties of the formed image.

.....

.....

.....

.....

.....

.....

15. In the opposite figure, an object moves from point A to point D, passing through points (B) and (C). Find the distance and displacement.

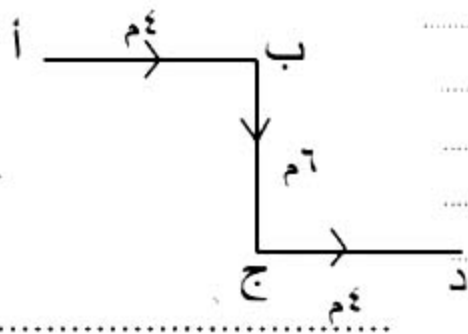
.....

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.....

.....



16. The opposite figure is about a starfish that lost one of its arms and it grew back after a period.



A - What is the name of the process that indicates what happens?

.....

B - What is the condition for reproduction by regeneration in a starfish if it has lost one of its arms?

.....

Question(3):

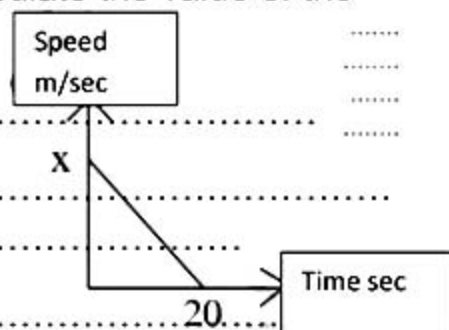
Choose the correct answer from the given options for the following:

17. If one body moves $\frac{3}{4}$ circle and another body moves $\frac{1}{4}$ circle, then the ratio between their displacements is.....
- a) 3:1
 - b) 1:1
 - c) 2:1
 - d) 1:3
18. An object 2 cm length is placed in front of optical piece, an inverted image 3 cm length was formed on its other side so this is a piece is.....
- a) Concave mirror
 - b) Convex mirror
 - c) convex lens
 - d) concave lens
19. The instrument used by astronomers to study the spectra of the sun is.....
- a) Hubble Telescope
 - b) Contact lenses
 - c) Solar telescope
 - d) Eye glasses

Give reasons:

20. A car moving at a certain speed appears stationary to an observer moving with it at the same speed and direction
-
-
21. Many people cannot write correctly while looking at the page through a plane mirror.
-
-
22. A convex mirror is placed on railway platforms.
-

23. If a car is moving with an acceleration of (2 m/s^2) , calculate the value of the speed at point x?



24. If you know that one of the cells in your body divided twice and produced 4 cells:

A- What type of division occurred to this cell?

B- Will the number of chromosomes change in the cells resulting from this division? Why?

Question (4):

Correct the underlined words in the following statements

25. The number of light pieces that form virtual images equals 3.

26. The distance the light travels in one year is $9.46 \times 10^{12} \text{ cm}$.

27. The Andromeda Galaxy consists of the Sun and eight planets orbiting it

Compare between

28. Positive uniform acceleration | Negative uniform acceleration

Points of comparison	<u>Positive uniform acceleration</u>	<u>Negative uniform acceleration</u>

29. Distance and displacement

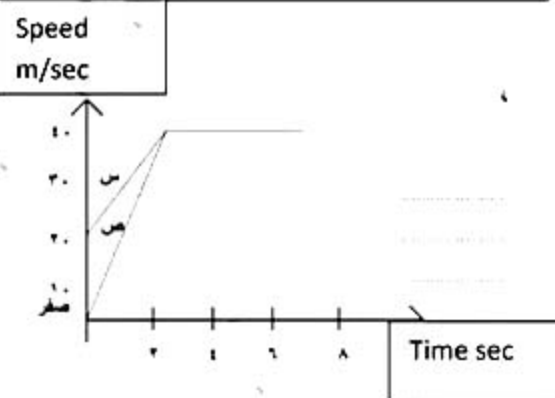
Points of comparison	<u>Distance</u>	<u>Displacement</u>

30. Real Focus and Virtual Focus.

Points of comparison	<u>Real focus</u>	<u>Virtual focus</u>

31. In the opposite figure:

a - Which of the two bodies starts its motion from rest?



b- Which of the two bodies moves with less acceleration?

32. State the number that indicates to:

a- The number of times that the genetic material duplicates during meiosis.

b- The number of cells resulting from the division of a human female's stomach.

Q1 (A): Complete the following statements:

1. When the speed of an object decreases over time, it is moving with acceleration.....
2. The image is always the same size as the object and cannot be received onto a screen in a mirror.....
3. The ratio between the number of chromosomes in a skin cell of an animal and the number of chromosomes in an ovarian cell.....:

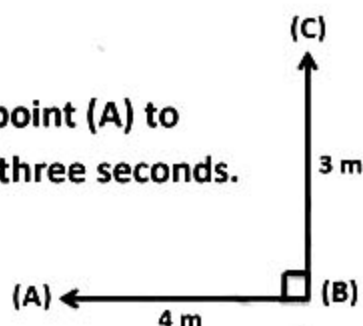
(B) What are the consequences of (What happens if...?):

4. The movement of an object such that it completes a full revolution relative its displacement.
.....
5. Placing an object in front of a convex lens at its focal point.
.....
6. The failure of the male gamete to fuse with the female gamete in sexual reproduction
.....

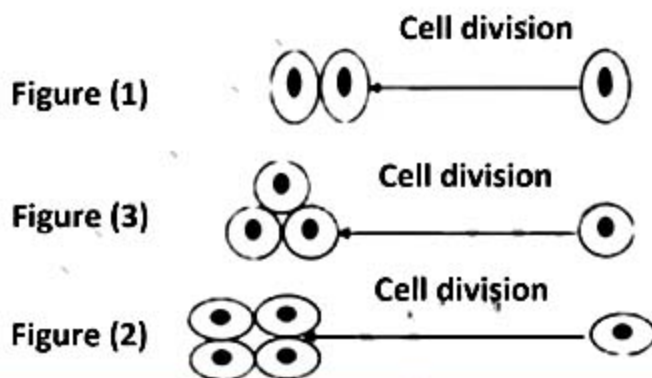
(C) Answer the following:

7. In the figure opposite, an object moves westward from point (A) to point (B) in two seconds, then northward to point (C) in three seconds.

- Calculate the velocity of the object during that period.



8. Study the following diagrams and then state the number of the diagram that represents:



- (a) The diagram that represents a scientific error. (.....)
- (b) Represents the reduction of the number of chromosomes by half. (.....)
- (c) Represents the difference in genetic traits between individuals of the same species. (.....)
- (d) Results in the replacement of damaged cells and wound healing. (.....)

Q2 (A): Write the scientific concept for each statement:

- 9. A transparent piece of light that is thick in the middle and thin at the edges. (.....)
- 10. A disease that affects the eye and causes difficulty in vision so the eye becomes dark. (.....)
- 11. The arrangement, patterns, and distinctive shapes of clusters of stars in the universe. (.....)

(B): Compare between the following:

12. .

POINT OF COMPARISON

SPEED

ACCELERATION

DEFINITION

MEASURING UNIT

13. .

Point of Comparison

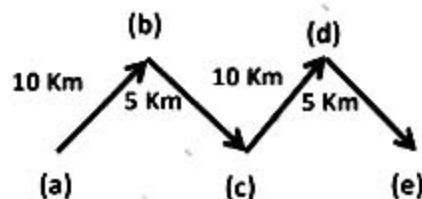
Force

Mass

Type of Physical Quantity

(C) Calculate the following:

- 14. A car started its journey from point (1) to point (e) in 30 minutes. What is the average speed at which the car is moving? (Write the law used)



.....

.....

.....

.....

15. The number of resulting cells and the number of chromosomes in each cell if two successive mitotic divisions occur in a somatic cell of an organism with 20 chromosomes.

Q3 (A): Choose the correct answer from the following:

16. A car moved for two hours at an average speed of 40 km/h. If its speed in the first hour was 20 km/h, then its speed in the second hour was.....
- a- 20 km/h b- 40 km/h c- 60 km/h d- 120 km/h
17. An object is placed in front of a concave mirror with a focal length of 8 cm, and a virtual image is formed. The distance between the object and the pole of the mirror iscm.
- a- 16 b- 12 c- 4 d- 8
18. The age of the sun to this moment is approximately..... billion years.
- a- 5 b- 10 c- 12 d- 15

(b) Write the scientific explanation for each of the following:

19. Pilots take into account the wind speed while flying.
20. The image formed in a plane mirror cannot be received on a screen.
21. The primary focus of a lens may be real or virtual.

: (c) Answer the following

22. Illustrate with a diagram and label the properties of the image formed of an object placed between the optical center of a convex lens and its focal point.

23. In the figure opposite:

If all the arms of (50) individual starfish were cut, and the cut parts of (35) of them contained part of the central disc, while the remaining individuals were cut so that they did not contain part of the central disc, how many organisms were formed by regeneration? Explain



Q4 (A): Correct the underlined words in the following statements:

24. A true image is always upright.

25. The modern theory is one of the theories explaining the origin of the universe.

26. Many ancient stars are concentrated at the edges of the galaxy.

(b) When does each of the following occur?

27. The motion of an object is the simplest type of motion.

28. The relative speed of a moving object is greater than its actual speed.

29. A light ray is reflected at a zero angle.

(C) Answer the following:

30. If a car moves according to the relationship ($v = 5t^2$), and you know that the car stopped after 15 seconds

Calculate both the acceleration and the initial velocity of the car.

.....

.....

.....

.....

.....

.....

31. The figure opposite represents the relationship between the number of parents and the number of offspring for two cases of reproduction

a. What type of reproduction is there in each of?

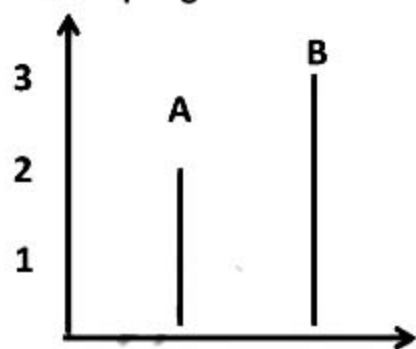
Number of offspring:

.....

Number of parents:

.....

Number of offspring



Number of parents

32. What is the relationship between the genetic makeup of the parents and offspring in the two cases?

.....

.....

.....

Q1 (A): Write the scientific term for each of the following statements:

1. The amount of change in velocity per unit time. (.....)
2. A piece of light that forms a virtual, magnified image on the other side of an object. (.....)
3. A modern technique developed by scientists using nanotechnology that penetrates cancerous tumors. (.....)

(B): What happens in the following cases?

4. An object begins its motion from rest with respect to its initial velocity and acceleration.
.....
.....

5. The incident of a light ray on a convex lens parallel to its principal axis.
.....
.....

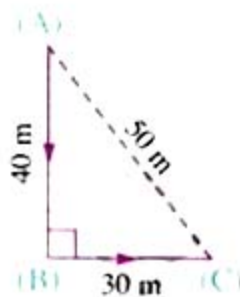
6. The absence of a nucleus in a cell.
.....
.....

(C) Answer the following:

7. In the figure opposite, an object starts moving from point (A) to point (C) passing through point (B) in a time of 2 seconds.
Calculate:

- 1- The average speed.
.....

- 2- The average velocity.
.....



8. From the figure opposite, answer the following:



a- When does this phenomenon occur?

.....

b- What is the importance of this phenomenon?

.....

.....

Q2 (A): Complete the following statements with the correct words:

9. The image formed by the lens.....is always virtual,and reduced

10. A glass object that is thick in the middle and thin at its ends is called and is used in correction.....

11. One of the postulates of the transiting star theory is that the explosion of the part extending between the sun and the transiting star led to liberation of..... From the gravity of this star and the formation of.....

(B) Answer the following:

12. Which moves with greater acceleration: a car that increases its speed from 18 km/h to 36 km/h in one second, or a bicycle that moves from rest to 10 km/h in the same time period?

.....

.....

.....

.....

.....

.....

13. What is the result of?

- When the final position of the motion is the same as its initial position.

.....

.....

14. Illustrate with a drawing only:

- Properties of the image formed of an object in a convex mirror.

.....

.....

.....

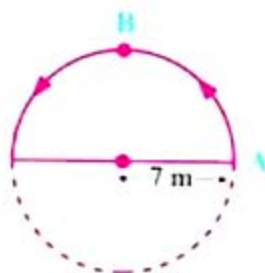
.....

15. In the figure opposite, the motion of an object along a circular path with a radius of 7 cm from point (A) to point (B) is represented. Calculate

a- The total distance.

.....

.....



b- The displacement.

.....

.....

16. Write the number that represents each of the following:

1- The number of cells resulting from the division of a bacterial cell through four consecutive mitotic divisions.

.....

2- The number of chromosomes in a fertilized egg of a housefly if the number of chromosomes in the sperm is 6.

.....

Q3 (A): Choose the correct answer from the following:

17. All of the following are standard physical quantities except.....

a) Mass and distance

b) Length and time

c) Area and volume

d) Density and weight

18. If a light ray is incident perpendicularly on a reflecting surface, then the angle of incidence and the angle of reflection are equal to.....

- a) 0 b) 90 c) 60 d) 45

19. The sun and the planet Earth were born about.....million years after the Big Bang

- a) 1000 b) 2000 c) 5000 d) 10000

(B): Give reason for:

20. Mass and length cannot be added.

.....

21. A concave mirror is called a converging mirror.

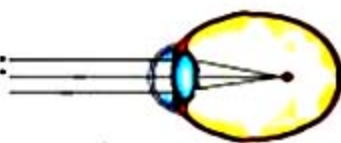
.....

22. Contact lenses are called by this name.

.....

(C) Answer the following:

23. The opposite figure represents one of the vision defects:



a- What is the name of the defect this person suffers from?

.....

b- How is this defect corrected?

.....

24. A marine animal preys on one of the arms of a starfish, and after a while, a new arm grows back).

a- What is the name of the process that describes what happened?

.....

b- What type of cell division occurs during this process?

.....

Q4 (A): Correct the underlined words in the following statements:

25. A person with normal vision can see objects clearly at a distance ranging from 6m to 25m.
.....
26. The expansion of the universe is the continuous moving apart of galaxies in the universe as a result of their regular shape.
.....
27. The Big Bang theory explains the origin of the universe from a massive explosion 1500 years ago.
.....

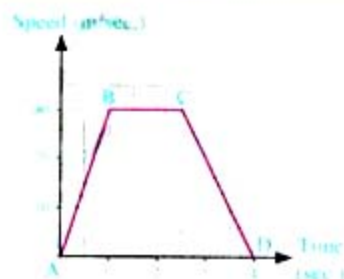
(B) Compare between:

28. Point of Comparison	Velocity	Speed
Definition		
Measuring unit		

30. Point of Comparison	Mass	Acceleration
Type of physical quantity		
Measuring unit		

29. Point of Comparison	Short-sightedness	Long-sightedness
Image formation location		
Type of lens used to correct the defect		

(C) Answer the following:



31. In the opposite figure:

Describe the motion of the object in the intervals:

a- (AB).

.....

B- (BC).

.....

32. The following figure shows one of the living organisms:

a- What type of reproduction does this organism have and what is its form?

b- What are the names of the special organs it possesses?

.....



Q1 (A): Write the scientific term for each of the following statements:

- 1- The speed at which an object would travel the same distances in the same amount of time. (.....)
2. A piece of light that forms a virtual, miniature image in front of its face when an object is placed at any distance from it. (.....)
3. The phase in which a cell becomes ready to enter the stages of division. (.....)

(B) What happens in the following cases?

4. When an object moves against the wind with respect to the amount of fuel and time.
.....
5. When the diameter of the eye is larger than the required length (with respect to the position and clarity of the image).
.....
6. One of the cells did not contain a nucleus.
.....

(C) Answer the following:

7. Two cars, one (X) coming from the north at a constant speed of 20 m/s, met car (Y) moving north and recorded its speed as 90 m/s, having started its movement 12 seconds earlier.

Calculate the speed at which car Y started its movement if it was accelerating at a rate of 2 m/s^2 .

8. A testicular wall cell in a human male underwent several divisions, resulting in 256 cells. In light of that answer the following:
a- How many divisions occurred? And what type?

b- How many chromosomes are in the total number of resulting cells?

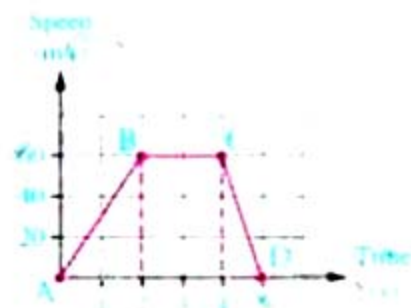
Q2 (A): Complete the following statements with the appropriate words

9. When an object is placed at a distance.....from....., an image is obtained at the same position as the object
10. Why do some people develop myopia (short-sightedness)?
11. The origin of the solar system, according to the..... Scientist's theory is the nebula.

(B) Answer the following:

12. A moving car cannot travel the distance from Cairo to Alexandria at the same speed every time. Discuss this statement within the limits of what you have.

13. In the opposite figure, describe the movement of the object in each stage.



14. An object is placed 7 cm from the optical center of a convex lens with a focal length of 3 cm. A real, inverted, miniature image is formed. Illustrate, with a drawing only, the paths of the rays that make up this image.

4- Correct the error:

15. The ratio between distance and displacement when a person moves along the circumference of a circle whose radius is π covering half the rotation equals π
16. A car that starts from rest moves at a constant speed.
.....

5- What happens in the following cases?

17. The growing buds in yeast fungus do not separate from the mother cell after their growth is complete.
.....
18. The spores mature and fall onto a piece of bread.
.....

Q3 (A): Choose the correct answer from the following:

19. When an object travels a distance of 360 meters in one minute, it is moving at a speed of.....
a- 360 m/s b- 21.6 km/s c- 6 m/d d- 1.67 m/s
20. An object was placed 4 cm from a plane mirror, and an image was formed at a distance (x) from it. When the mirror was moved 2 cm towards the object, a new image was formed after (y), then $(x - y) = \dots\dots\dots$ cm
a- 2 b- 4 c- 6 d- 8
21. The age of galaxies until the emergence of the first life forms.....million years

(B): Give reasons for the following:

22. The importance of having a speedometer in airplanes and cars.
.....
.....
23. The word "AMBULANCE" is written inverted (reversed) on ambulances.
.....
.....

24. A piece of paper placed at the focal point of a concave lens directed at the sun's rays will burn.

(C) Answer the following:

25. Malak visited the doctor complaining of blurred vision. The doctor advised her to replace her eye lens. In your opinion, is the diagnosis correct? Or not? What were the reasons that led the doctor to prescribe it?

26. The opposite figure shows one form of reproduction:



Explain the type of reproduction and the form it represents.

b- Give examples of other living organisms that reproduce in this way.

Q4 (A): Correct the underlined words in the following statements:

1- A person prescribed glasses with thin lenses at both ends sees the image behind the retina.

2- The Milky Way galaxy completes a full orbit around the center of the sun every 220 million years.

3- The sun was born about 10 billion years after the Milky Way had taken up the entire disk.

(B): Compare the following:

Point of Comparison	Speed	Velocity
Definition		

Point of Comparison	The real image of the mirror	The virtual image of the mirror
Definition of constituent rays		

(C) Answer the following:

The following data is recorded for the motion of an object. Illustrate the motion of the object with a graph. From the graph, find the values of x and y.

.....	d	5	10	15	20	x	30
.....	s	2	4	6	8	10	y

.....

.....

2- In the figure opposite:

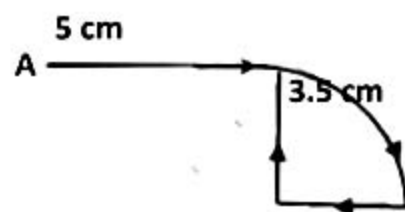
A person moved from point A, taking the path shown in the graph. Calculate:

1- The total distance.

.....

.....

.....



2- The displacement and velocity if it took 10 seconds.

.....
.....

3- Explain the following:

1- The offspring resulting from sexual reproduction differ in genetic traits from the two parental individuals.

.....
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.....

حمل الآن

مجاناً وحصرياً

امتحانات رقم (3)

الترم الاول





محافظة القاهرة
مديرية التربية و التعليم

نموذج استرشادي لامتحان إتمام الدراسة بمرحلة التعليم الأساسي

الفصل الدراسي الاول 2025 / 2026 م

عدد أوراق الإجابة (...) ورقات بخلاف
الغلاف

و على الطالب مسئولية المراجعة
و التأكد من ذلك قبل تسليم الكراسة
في نهاية الوقت المخصص للإجابة

المادة : علوم لغات انجليزي.....

التاريخ : / / 2025 م

زمن الإجابة : ... ساعتان.....

مجموع الدرجات

رقم السؤال	الدرجة رقما	الدرجة كتابتا	التوقيع	
..... :			المقدر	المراجع
..... :				
..... :				
..... :				
..... :				
..... :				
المجموع				

رقم المراقبة

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الإدارة التعليمية :

اسم الطالب رباعيا :
المترســــــــــــة :

رقم الجلوس :

توقيع الملاحظين :

1.....
2 -

توقيع الملاحظين بصحة بيانات الطالب
كما وردت رقم جلوس الطالب
و مطابقة عدد أوراق كراسة الإجابة عند
استلامها من الطالب

غير مصرح بالكتابة
في هذه الصفحة

Group 1 from (1-8)

*** Choose the correct answer:**

1.The reproductive cell with N chromosomes, its number in the somatic cell is.....

- a. 2N b- 4N c-N d.6N

2.When an object of 4 cm length Infront of a reflecting surface of a concave mirror at a distance equals its radius of curvature, so the length of the formed image will be

- a- 3cm b- 8cm c- 4cm d- 9cm

3. The founder of modern theory for origination of solar system

- a. Moulton b- Fred Hoyle c- Chamberlain d- Laplace

*** What happens when....?**

4. A body is decelerating.

.....

5. An Amoeba cell divided into three successive mitotic divisions.

.....

6.A light ray fall perpendicular on the surface of a plane mirror.

.....

***Give reason for:**

7. The body that moves by constant uniform speed has acceleration equals zero.

.....

8. Short- sighted person sees the far objects distorted.

.....

Group 2 from (9-16):***Complete:**

9. Force is considered aphysical quantity, and mass is considered a Physical quantity.

10. The secondary axis of the spherical mirror is any straight line passing by and any point on its surface except..... of the mirror.

11. The solar system is located in galaxy.

*** What is meant by**

12. A relative speed

.....

13. The first law of reflection.

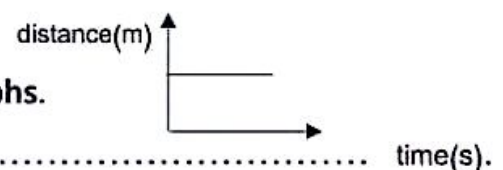
.....

14.Asexual reproduction.

.....

*** Answer each of the following questions**

15. Describe the motion of the body in the following graphs.



..... time(s).

16. look at the opposite figure then mention the name of this phase and what is the type of this division.



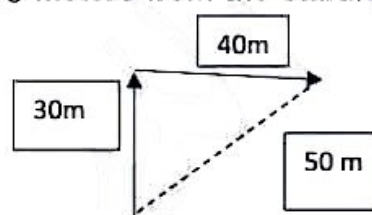
	
	

Group 3 from (17-24):

***Write the scientific term:**

17. The actual length of the path that a moving object covers from starting point to the ending point ()
18. An optical piece which usually gives reversed and equal size image. ()
19. The ability of some animal to compensate their missing parts. ()

In the opposite figure, a body covered 30 meters northward within 30 seconds, then 40 meters eastward within 20 seconds and stopped at a point about 50 meters from the starting point. calculate:



20. The total distance moved by the body

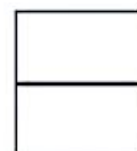
21. The displacement.

22. The velocity.

***Draw a diagram to show the path of the rays:**

23. when the object is placed at a distance more than the double of focal length in case of the concave mirror.

24. A light ray passes through the optical center of the lens.



Group 4 from (25-32):

***Put (√) in front of the correct answer or (X) in the wrong ones:**

25. The chromosome consists of two chromatids connected together at centromere ()
26. The universe emerged from the particles of oxygen and nitrogen ()
27. The speed of the car can be identified directly by using the compass. ()

***Mention the important of each of the following:**

28. The crossing over phenomenon.

.....

.....

29. light year

.....

.....

30. The use of convex mirror at the platform of railway station.

.....

.....

***Compare between each of the following:**

31.

Point of comparison	Regular speed	Average speed
Definition		

32.

Point of comparison	Mitosis division	Meiosis division
<u>Site of occurrence</u>		

انتهت الاسئلة

كيفية طباعة صفحات معينة من ملف معين

مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9

